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THE MODERN SOLUTION TO CEMENTING PROBLEMS

The Many successful Applications For This Unusual Tool Are Described and Illustrated in the New BAKER BROADCAST No. 17-A . . . A 40-Page Booklet Just Off The Press.

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Many Unusual Jobs Done With Cement Retainer
Use of Cement Retainer as Casing Bridge Plug

SQUEEZE JOBS SOLVE MANY DIFFICULT PROBLEMS

In squeeze cementing the slurry is applied to a formation under a pressure that is capable of forcing at least a portion of the cement into the formation to such an extent that it forms an effective barrier to the passage of any fluid (gas or water) from the formation into a well. The application of the slurry may be made in open hole or through perforations in casing but the primary requirements for a squeeze job are that the cement be placed under considerable pressure—which frequently is above 4000 lb. per sq. in.—and that the pressure be maintained without disturbance until the cement has set. Because of the perfect adaptability of the Cement Retainer to meet these requirements, it is quite evident that it has had a great influence on the widespread use of squeeze jobs and, through the facilities which it provides, has done much toward the development of squeeze cementing technique.

Squeeze jobs are now being used in completing wells and in repair work: for shutting off gas and water in both open hole and behind casing or liner either adjacent to or distant from an oil zone; for recementing and plugging; and for numerous applications where specific conditions make the operation "unusual." The advantages of the Cement Retainer for performing squeeze jobs in the great majority of cases that arise are obvious when it is realized that it permits the use of extreme pressures without applying those pressures to the casing and that it maintains the pressure on the cement immediately upon its placement without recourse to surface connections which are not only inconvenient but which may relieve some pressure while being closed in and may leak after they are closed.

Experience has shown that an important procedure to follow in squeeze cementing under most conditions encountered is to break down any obstruction on the face of the formation with water before the cement is applied. Speaking from this experience, C. P. Parsons has stated: "In some saturated-sand formations, or limes of similar permeability, the pump pressure required to begin movement of water back into a formation is usually higher than is required for continuing the movement. After water once begins moving into a relatively tight formation, the pump pressure usually starts dropping. When it reaches minimum, the necessary amount of cement slurry is mixed and pumped down through the tubing and squeezed against the formation, without stopping the flow. The cement slurry thereby follows the water into the formation and starts building up pump pressure. When this pump pressure reaches a desired maximum the squeeze is complete, but the mechanical equipment must be arranged so there will be no material loss of squeezing pressure . . . the tubing is being flushed or removed after the . . . pump pressure does not build up during the squ . . . ble amount of cement slurry is pumped into t . . ."

9. Mid-Continent District, A.P.I. Amarillo, Texas. Feb. 17-18 "Squeeze Cementing" by C. P. Parsons, presented at

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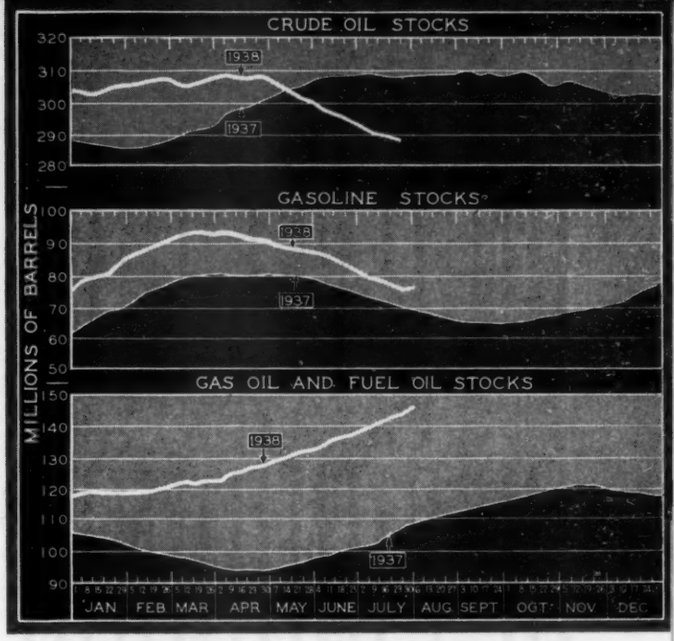
Trends

Unconnected Wells, Restricted Outlets Are Market Factors


CRUDE OIL STOCKS
GASOLINE STOCKS
GAS OIL AND FUEL OIL STOCKS
MILLIONS OF BARRELS
1938
1937
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

WITH August allowables indicating that production for the country as a whole will be kept well within the estimated demand so that a reduction in crude stocks will continue, the oil business at the start of a new month nevertheless finds itself confronted with developments which are at least serious to those immediately concerned. For the most part they are problems which have been in the making for some time and are the result of conditions which are not easily adjusted.

CRUDE PRODUCTION *3,315,890 barrels daily average—down 33,488. One year ago 3,597,673 barrels.*

CRUDE STOCKS *287,585,000 barrels as of July 23—down 1,727,000. One year ago—307,139,000 barrels.*

GASOLINE STOCKS *76,864,000 barrels as of July 30—up 498,000. One year ago—70,872,000 barrels.*

GAS AND FUEL OIL STOCKS *144,294,000 barrels as of July 30—up 1,253,000. One year ago 108,209,000 barrels.*

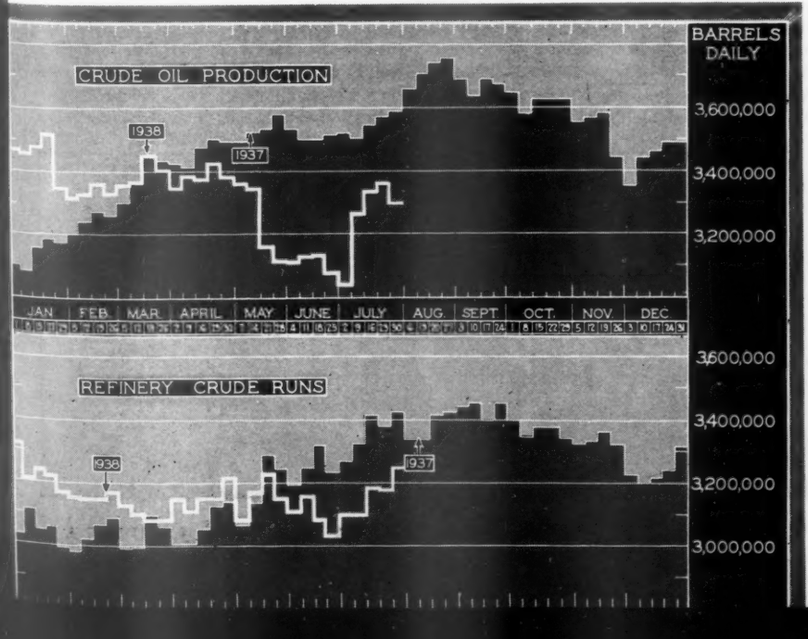
REFINERY RUNS *3,240,000 barrels daily week ending July 30—up 60,000. One year ago 3,425,000 barrels.*

In East Texas approximately 400 wells were cut off from connections Monday as the result of the action of small pipe line purchasers who will supply their requirements in most cases from the lower priced fields of Arkansas. This development reflects the comparatively high East Texas posted schedules which has resulted in some of the smaller purchasers looking for other supplies. It again raises the question as to whether the crude can continue its premium place among major buyers with whom it has maintained a strong position, due to the quality of the oil and its nearness to the large outlets of the Gulf Coast area.

In southern Oklahoma, the further restriction of outlets for the low-gravity asphaltic-base crudes produced in the stripper areas has brought strong protests from operators. The explanation offered here, as in some of the other low-gravity fields, lies in the weakness of residual fuel oil markets which has brought substantial reductions in markets over the past several months. In the case of one buyer at least there is also the fact that its reduced sales of the higher gravity paraffin and mixed based crudes to northern buyers has made it impossible for the company to absorb the former quantities of the low-gravity crudes. The high-sulfur crude has a low content of straightrun gasoline, is unsuitable for the refining of lubricants and does not furnish the best stocks for cracking operations.

It has been the practice of large purchasers to absorb limited quantities of this type crude, blending it off with the better crudes, without objections from refinery connections. Unfortunately, the reduced takings come in areas where it will be difficult for operators to develop other profitable markets.

An increasing number of unconnected wells is reported in K.M.A. and a few smaller areas in the Mid-Continent. State proration bodies are being urged to discuss these developments with the major crude oil operators with the view of bringing about whatever adjustments are necessary in the movement of crude, so that the threat of underpriced crude, always present when wells are unconnected or do not have adequate outlets, will be removed. Crude and refinery markets generally are quiet.



DAILY AVERAGE PRODUCTION FOR WEEK

	July 30, 1938	Bur. Mines July est.	July state allowable	July 23, 1938
Oklahoma City	101,675	.....	.....	104,450
Fitts	39,750	.....	.....	40,525
Remainder of state	281,200	.....	.....	289,300
Total Oklahoma	422,625	518,400	428,000	434,275
East Texas	439,585	.....	.....	438,915
West Texas	218,693	.....	.....	217,994
North Central Texas	107,798	.....	.....	107,243
Texas Panhandle	72,356	.....	.....	74,878
East Central Texas	100,424	.....	.....	102,539
Gulf Coast Texas	344,715	.....	.....	344,885
Southwest Texas	108,579	.....	.....	108,305
Total Texas	1,392,150	1,360,300	1,359,192	1,394,759
North Louisiana	82,490	.....	.....	80,790
Gulf Coast Louisiana	186,936	.....	.....	184,517
Total Louisiana	269,426	260,600	249,745	265,307
California	650,250	642,300	615,000	663,500
Kansas	153,975	172,300	165,000	157,725
Arkansas	57,080	51,000	.....	58,205
Illinois	53,238	45,500	.....	54,599
Michigan	51,106	56,400	.....	52,258
Eastern fields	93,220	104,200	.....	94,800
New Mexico	101,600	112,900	.....	101,590
Rocky Mountain area	71,220	74,200	.....	72,360
Total United States	3,315,890	3,398,100	.....	3,349,378

UNDEVELOPED RESERVES IN PANHANDLE OF TEXAS

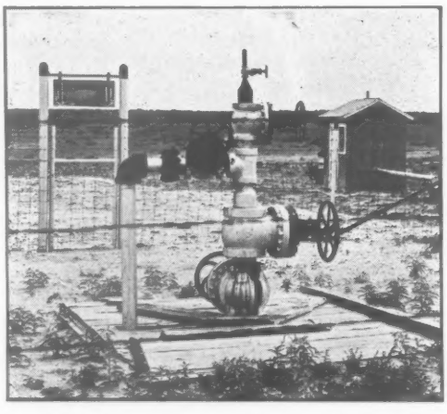
By Mitchell Tucker

FORT WORTH, Tex., Aug. 2.—A review of the oil and gas industry in the Panhandle district of Texas reveals that there are now 3,857 producing oil wells and 1,469 producing gas wells, yielding a daily production of over 81,000 bbls. of oil and approximately 2,000,000,000 feet of gas. This production is being handled by 12 refineries, 46 natural gasoline plants, 33 carbon black plants, 5 oil pipe lines, and 9 major gas transmission lines. Perhaps of even more importance to the Panhandle district is the fact that the proven gas and oil regions are at present developed to about only one-fourth to one-half their eventual density.

Since its discovery in 1918, the Panhandle gas field has grown to its present length of about 125 miles, with an average width of about 20 miles, extending southeast-northwest. Oil production is confined to a series of pools along the northern flank of the field for about 90 miles. Although most production records, and the Railroad Commission of Texas, consider the Panhandle oil fields as one proration unit, separating them only by counties, in reality they are a series of separate reservoirs, comprising in all approximately 250,000 acres.

Considering the 3,857 wells now drilled, it will be seen that the per well acreage average is about 75 acres. In the more densely drilled areas a 10-acre pattern has been followed, and is not considered excessive for wells of that depth. Should the eventual density of oil wells be 1 to 10 acres, it is apparent a total of 25,000 wells will be required to develop the district fully. However, with the methodical development programs now being carried on it is improbable this amount of drilling will ever be done, or at least for many years.

The heavy crude oil storage situation in the Panhandle, and the distance from refineries or markets, has served to retard development of the oil area. Out of the approximately 2,500,000 bbls. of oil production per month, about 1,000,000 bbls. is refined by the 12 refineries, while the remainder is transported great distances by pipe line to other refinery centers.



A typical gas well in the west sweet gas area of the Panhandle, located in the center of 640 acres. Several thousand such proven locations remain to be drilled in the district

During the past five years there has been a continuous withdrawal from storage in the Panhandle district. As of August, 1933, there were 15,622,315 bbls. of crude in storage in the field. As of January 1, 1936, this had been reduced to 12,500,000 bbls., and during 1936 the storage oil was reduced to 8,750,000 bbls. During 1937 oil was run to storage only two months, and reductions made the other 10 months. As of June 1, 1938, the total storage oil amounted to exactly 6,490,317 bbls.

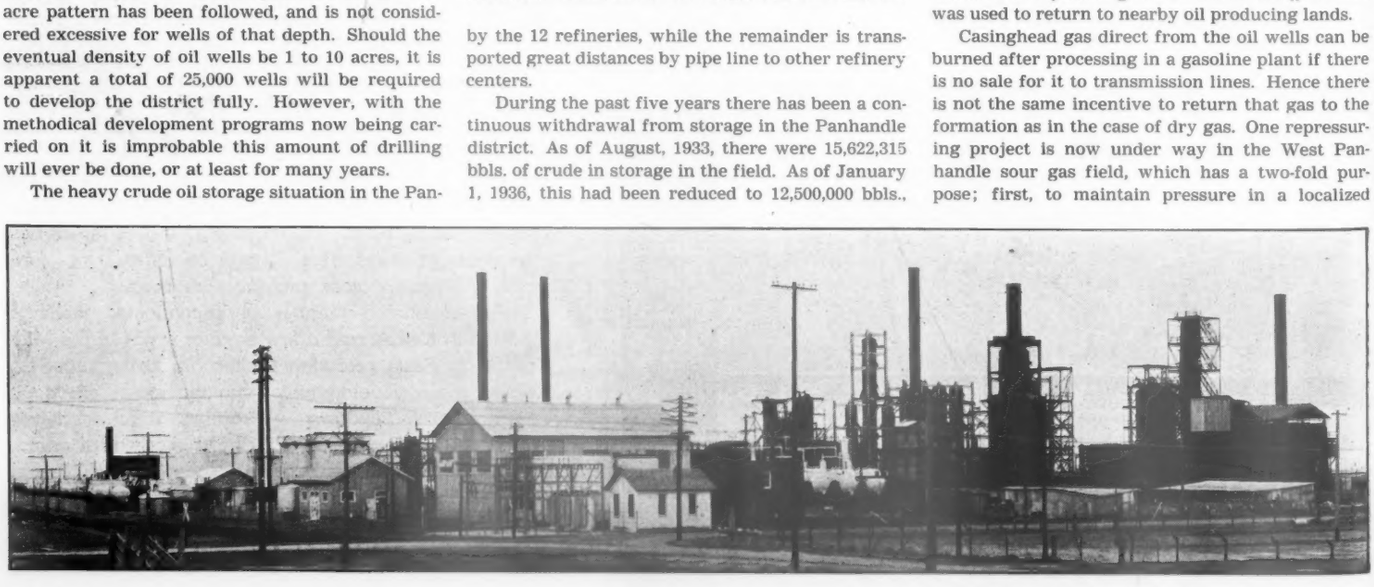
An ultimate recovery figure of 1,000,000,000 bbls. has been advanced in several reliable reserve estimations on the Panhandle oil fields. Granting this to be a close approximation, there remains about 700,000,000 bbls. yet to be produced in that district.

The proration of oil wells in the Panhandle has long been considered to be about the most stringent in Texas. This situation might possibly be caused by the limited local demand, distances from markets, and previous heavy storage situation. With a daily potential of about 1,240,483 bbls. from the 3,857 producers, a daily allowable of about 81,000 bbls. is granted, which represents an average of about 21 bbls. per well per day. With a one-day shutdown the district average is 18 bbls. per well per day. However, there are some 950 submarginal wells (those which cannot make their 20-bbl. marginal allowable), and this leaves a slightly larger allowable to those capable of establishing higher potentials.

Allocation of production is set upon a marginal plus potential basis, but in reality it is practically on a straight marginal basis. After allocating all marginal oil in the district, the remainder is distributed according to individual well potentials on a factor of 1.0191 per cent, which actually renders all production near the marginal limit. In fact, many operators prefer to complete their wells without regard to establishing a potential, in the interests of future conservation.

Of the 3,857 oil producers, 3,709 are on the pump. Most wells are equipped to pump upon completion. Some engineers have considered the Panhandle field as particularly suitable for efficient repressuring projects, especially in the granite wash fields, because of the abundance of gas and the well saturated and porous reservoirs. Several such projects have been attempted on a limited scale, but they usually encountered legal difficulties because the extraneous injection gas from other fee gas lands was used to return to nearby oil producing lands.

Casinghead gas direct from the oil wells can be burned after processing in a gasoline plant if there is no sale for it to transmission lines. Hence there is not the same incentive to return that gas to the formation as in the case of dry gas. One repressuring project is now under way in the West Panhandle sour gas field, which has a two-fold purpose; first, to maintain pressure in a localized



The Texas Co.'s 6,000-bbl. daily capacity skimming and cracking refinery at Amarillo, Tex. Another view on preceding page

area; and second, to comply with the conservation statutes and not burn plant residue gas from dry gas wells.

At present there are 119 wells rigging up or drilling within the proven area of the Panhandle district; 108 are in the oil producing areas. In the Whittenburg district cable tools are universally used, due to difficulties from caving formations. About 30 days is required for the drilling of such wells, as it is necessary often to drive pipe through considerable distances. In all other portions of the district rotary tools are used to top of the pay, and standard tools to total depth. About 15 to 18 days are required for rotary work and three to four days for drilling in. Shooting is always done in the dolomite wells, while acidizing is common practice in the granite wash wells. A turnkey price of about $20,000 is considered average for Panhandle wells.

One of the 32 carbon black plants in the Panhandle district which last year produced 407,380,000 pounds of carbon black

Gas Area

Throughout the vast 1,200,000 proven acres of gas lands only 1,469 gas wells have been drilled. The 640-acre pattern has been followed rather closely in the West Panhandle sour gas fields and in some portions of the West Panhandle sweet gas fields. In the East Panhandle sweet gas field in Wheeler County, where there is a greater diversification of small tract ownership, the development plan has been one well to 160 acres. On the program of one well to the section in the sour gas area, and one well to 160 acres in the sweet gas portions, there remains approximately 5,750 proven gas well locations yet to be drilled in the Panhandle. In some of the larger tracts in the sweet gas fields a wider spacing will probably be followed.

At present there are two efforts on the part of the railroad commission to enforce ratable takings in the gas field. The original East Panhandle field order was issued on December 1, 1937, which established allowable gas production from individual wells upon a one-third potential and two-thirds acreage times potential, with 160-acre units as a maximum. After progressing through both federal and state courts, the test case on this order styled as Consolidated Gas Utilities Co. vs. Railroad Commission will be tried on its merits in the Fifty-third District Court of Travis County sometime early this fall. The present sour gas field order is similar to the East Panhandle field, except that maximum proration units of 640 acres are specified. This case is also in the courts.

In order to permit ratable takings, it has been necessary for Lone Star Gas Co. and United Gas Pipe Line Co. to construct booster stations on their lines out from the East Panhandle field. Formerly the connected wells were able to provide sufficient volumes and line pressure to meet requirements, but some of the wells with lower rock pressure did not feed in. With the installation of booster stations, gas is taken in at from 125 to 225 pounds suction, thus allowing each well to make its daily allowable.

The 32 carbon black plants in the district last year manufactured a total of 407,380,000 pounds of carbon black. Under the existing form of gas contracts, the gas producer or royalty owner does not profit much from sales to carbon black plants, and perhaps their greatest benefit has been in providing a market for the sour gas, and also in stimulating employment and general business conditions within the district.

The 46 natural gasoline plants manufactured a total of 324,450,000 gallons of natural gasoline last year.

The following information on the helium industry in the Texas Panhandle is quoted from the Bureau of Mines Minerals Yearbook, 1938:

"The government Cliffside helium reserve was operated in 1937 to supply 293,429,000 feet of helium-bearing natural gas to the Amarillo helium plant. The field produced a cumulative total of 4,692,088,000 feet of gas from May 16, 1929, to June 30, 1937. It is owned in fee by the government and comprises a contiguous tract of 50,000 acres. The average pressure of the field indicated that the formation pressure decreased slightly during the year, representing a decline of less than 3 per cent of the total original reserve. The Cliffside helium reserve has been conservatively estimated to contain over 100,000,000,000 feet of helium-bearing gas, which indicates a reserve of 1,800,000,000 feet of helium.

Helium Production

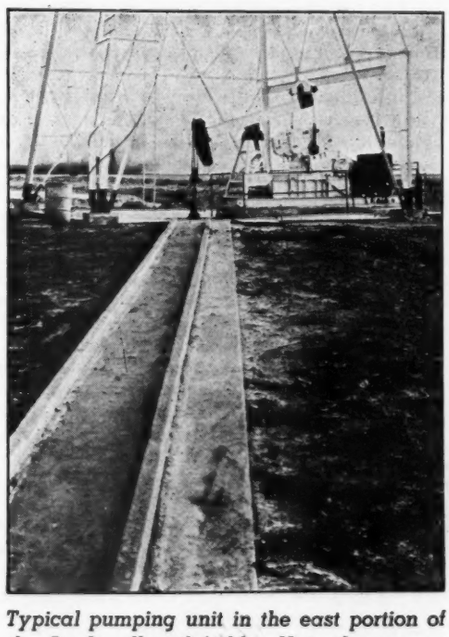
"The Bureau of Mines helium plant near Amarillo continued to operate intermittently during the year. The total production for the fiscal year 1937 was 4,809,230 feet of helium, which represents a slight increase over the 1936 production. Relatively small amounts of the production were furnished to the U. S. Public Health Service, but the bulk of the production was shipped to the army and navy.

"A total of 78,160,205 feet of helium has been produced in the plant from the beginning of production in May, 1929, to June 30, 1937, with an expenditure of $908,120.73 for plant and gas-field operation. Over a period of eight years this gives an all-time gross operating cost of $11.62 per 1,000 feet of helium."

Wildcatting

There are 21 wildcat wells drilling in the Panhandle. Eleven are in search of possible extensions to the edges of proven gas or oil fields. Most of the others are deep exploratory holes south of the fields proper. The northward extension of Permian Basin activity is extending into what is generally considered as the Panhandle district, searching for production in the Lower Permian or Ordovician horizons.

Regarded as the most important wildcat test in that district for several years, Sinclair Prairie Oil Co. is preparing to drill 8,000 feet or deeper in section 23, Block 6, B.S.&F. Survey, about 7 miles northwest of Amarillo in Potter County. This location is generally referred to as the Bush dome, upon which the government holds all gas and helium rights, and the Sinclair company holds most of the oil rights.



Typical pumping unit in the east portion of the Panhandle oil fields. Note the cement rod rack running out from location

Gasoline Tax Conference In Tulsa in October

The thirteenth annual meeting of the North American Gasoline Tax Conference will be held in Tulsa, October 10 to 14. The committee is making plans for an interesting program, E. D. Graham, of the conference council, announces.

Compact Is Told Operations Should Not Be Increased

By C. O. WILLSON

COLORADO SPRINGS, Colo., July 29.—Crude oil production in the United States should be kept at approximately present levels over the balance of the year, according to two surveys announced here today in connection with the sessions of the Interstate Oil Compact Commission.

The recommendations, arrived at independently by Dr. Joseph E. Pogue, petroleum economist, and the executive committee of the Independent Petroleum Association of America, concluded that a continuance of present production would take care of the estimated demands, taking into consideration the necessary reduction of inventories.

Greetings from Harold L. Ickes, secretary of the Department of Interior, showing that the former oil administrator was satisfied with the accomplishments of the Interstate Oil Compact Commission over the past three years, and the inauguration of plans looking to the extension of the compact and Connally "hot" oil act when they expire next year were other high points in the sessions today.

The sessions of the compact were conducted with their usual smoothness and minimum of discussion. Considerable time was devoted to the introduction of distinguished guests and brief talks by those connected with the compact. Approximately 100 attended the meetings as observers including several independent operators and representatives of the larger oil companies.

Leon C. Phillips, the Democratic nominee for governor of Oklahoma who will succeed Governor E. W. Marland January 1, should he be elected in November, attended the morning session and in a brief talk set at rest all concern as to his support of the compact. He commended the work of the compact and added "it is fundamental that we preserve the rights of the states in the application of conservation regulations."

May Change Compact

The objections to the work of the compact recently expressed by Kansas operators with the threat of withdrawal from the compact by Governor Walter Huxman of that state were not discussed at the sessions. Judge E. R. Sloan, chairman of the Kansas Corporation Commission, who succeeded E. E. Blincoe as Kansas' representative on the compact starting today, supported the motion by Governor Marland looking to its continuance.

The Marland motion which was unanimously adopted provides for a meeting of the governors or their representatives from the six states now parties to the compact to discuss possible changes in a new compact which will have to be submitted for approval before the present one expires. It is anticipated that Col. E. O. Thompson, of the Texas Railroad Commission and chairman of the compact, will call the meeting in August or September. Any recommendations as to changes will be made to the compact at its next session to be held in late September or early October.

The commission accepted the invitation of Governor Marland to hold the next meeting in Tulsa. The governor hopes to hold the meeting during the annual Governors Conference, the exact date to be announced in a few days. The conference will be attended by 25 or more governors from all parts of the United States and Governor Marland explained a meeting of the compact at the same time will afford an excellent opportunity to acquaint the governors of many of the oil-consuming states regarding the operating problems of the industry.

Varying Views

The action taken in regard to a meeting of the six governors to make recommendations regarding the scope of future activities of the commission reflects two schools of thought regarding future activities of the compact. Some feel that the powers of the compact should be broadened so that it can be a more direct factor in the application of conservation regulations. Regarding this, the executive committee of the Independent Petroleum Association of America in its report yesterday said:

"The oil states compact is proving of great value to the conservation program of the nation. We recognize the limitations under which it is now operating and would recommend that this compact upon its expiration should be renewed and that its provisions be added to and strengthened by granting authority for this body to make proper allocations of the market demand between the oil producing states of the nation, and authority be given to prevent waste based on market demand.

"Notwithstanding the constructive work that has been accomplished and can be accomplished by the Interstate Oil Compact with only six oil producing states as members, it is essential, if the compact is to perform its function most effectively, that all oil producing states should become members of the compact and we urge that every reasonable effort be made to accomplish this end."

Others feel that it will be impossible to secure federal and state support for a compact except on its present basis of acting in an advisory capacity with all matters of regulation and allocations confined to the states.

B. of M. Estimates

There was no criticism of the Bureau of Mines in regard to the manner in which it estimates demand as a basis for allowables covering crude oil production by states, contained in the report on that subject by Hiram M. Dow, member of the compact from New Mexico. Mr. Dow is chairman of the committee which met with A. G. White, head of the petroleum economics division of the Bureau of Mines at Washington, and Ludwig Schmidt of the bureau's district office at Bartlesville, Okla. The report covered in considerable detail the method used in arriving at the demand data and its allocation among the oil producing states.

One point emphasized in the report was the fact that Bureau of Mines in its estimate of required crude oil production does not include any recommendations as to reductions from crude storage. The estimate allocates current requirements for the month under consideration based on factors which include studies of the demand for refinery products. The suggested allocation by states are derived largely from actual divisions of previous months, no attempt being made to arbitrarily give to one state markets which previously had been served by one or more other states.

Ickes' Wire

Colonel Thompson, who presided at the sessions, read a wire from Harold L. Ickes, Secretary of the Interior, extending greetings to the compact. "During the past three years the states and federal government working together have gradually evolved the basic principles of a procedure for oil conservation," said the former oil administrator. "The progress made in the orderly approach toward a solution of this problem is substantial and I am convinced that now there is no material conflict between state and federal agencies in this regard.

"The Interstate Compact to Conserve

ESTIMATE OF OIL DEMAND FOR THE NEXT THREE QUARTERS

	A. No change in business			B. Business recovery		
	1938		1939,	1938		1939,
	Third quarter	Fourth quarter	First quarter	Third quarter	Fourth quarter	First quarter
Federal reserve board index	76	76	76	79	85	90
Total motor-fuel demand (daily)	1,705,000	1,495,000	1,318,000	1,722,000	1,527,000	1,362,000
Change from year before, per cent	—1.2	+0.4	—0.2	—0.2	+2.6	+3.1
Motor-fuel inventory objective	66,800,000	68,100,000	81,000,000	67,300,000	69,100,000	83,000,000
Required runs of crude to stills (daily)	3,150,000	3,075,000	3,005,000	3,200,000	3,160,000	3,130,000
Required domestic crude (daily)	3,400,000	3,315,000	3,245,000	3,450,000	3,400,000	3,370,000
From stocks (daily)	100,000	50,000	25,000	100,000	50,000	25,000
From domestic fields (daily)	3,300,000	3,265,000	3,220,000	3,350,000	3,350,000	3,345,000

Table summarizing recommendations of Dr. Joseph E. Pogue.

Oil and Gas and the Connally law, two important elements in the administration of this conservation policy, will terminate next year unless extended. Likewise, the basic oil conservation law of Texas will terminate unless extended. Several oil-producing states, which have not yet declared themselves on the policy of oil-conservation, have considered the enactment of appropriate legislation. If the ground which has so effectively been gained is not to be lost, we soon must be prepared to utilize this experience in making recommendations as to future action which should lead ultimately to the establishment of a permanent oil conservation policy for the United States, based on mutual respect for our separate and joint responsibilities and having the prime purpose of assuring an adequate supply of oil at reasonable prices. The viewpoint of the Interstate Oil Compact Commission as to such future action, when conveniently available, will be appreciated."

It was indicated here that the renewal of the compact and the Connally Act and the Texas conservation act will have the united support of large and small operators. There was no tangible evidence that additional states will join the compact soon. J. L. Pemberton, representing California as an observer, told of the success in that state in reducing production through the voluntary action of operators, and C. A. Morvant, counsel of the Louisiana Conservation Department, representing that state, spoke briefly.

Lon A. Smith, member of the Texas Railroad Commission, and who generally has voted against Colonel Thompson and C. V. Terrell, present chairman, in matters relating to oil conservation in Texas, attended the sessions and spoke briefly this morning. He has not been active in the past in the work of the compact.

Politics

The recent primaries in Texas and Oklahoma and the one to be held in Kansas next week brought politics to the fore and there was considerable good natured joking in and outside the meeting regarding developments which may have important bearing in the work of the compact and state regulatory bodies next year.

Referring to recent defeat of Colonel Thompson by W. Lee O'Daniel, the "flour salesman," for the Democratic gubernatorial nomination, Mr. Smith explained that while he had taken a train to the meeting here the "Colonel took an airplane in order to get the last of the flour dust out of his eyes."

Comment by operators regarding Mr. O'Daniel as to his probable attitude toward continuance of oil conservation in Texas was favorable. Considerable importance attaches to the Texas run-off campaign between C. V. Terrell and G. A. Sadler of Longview, Tex., for the Texas Railroad Commission. Mr. Sadler in his campaign has expressed opposition to many of the actions of the Texas commission in regulations applying to oil operations in East Texas and other areas.

Demand and Proration

The projection of demand by Doctor Pogue and a second report by Doctor Pogue and Dr. Alexander Sachs on the "Problems of Proration in the Conservation of Oil" were well received. The report of Doctors Pogue and Sachs was made as members of the Advisory Committee on Economics appointed at the meeting of the commission held in May at Wichita. The third member, E. L. De Golyer, Dallas operator, who concurred in the report, was unable to be present. The report, which deals with long range view of proration in relation to conservation and the oil industry's operations, was taken under consideration by the commission without comment. Copies are available from Art L. Walker, secretary, Interstate Oil Compact Commission, Oklahoma City. Okla.

I.P.A.A. on Unconnected Wells

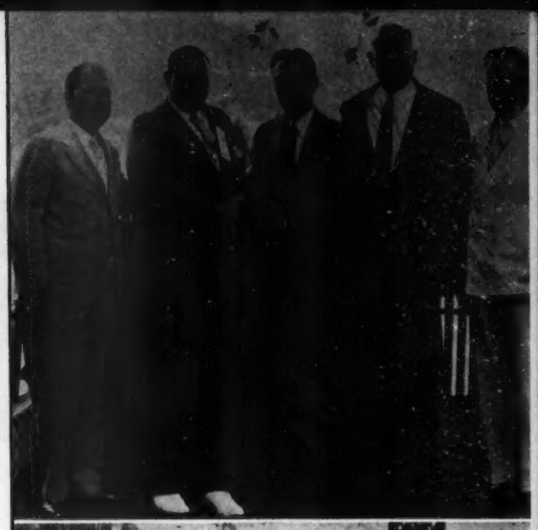
The executive committe of the Independent Petroleum Association of America, following an all-day session yesterday, in a statement today called upon the state proration bodies to take action in the matter of unconnected wells and what it termed "inequitable takings by purchasers" in several areas. The committee suggests that conferences be held immediately with the crude purchasing companies to the end that all these conditions, which it is said constitute a threat to the entire industry, are ended.

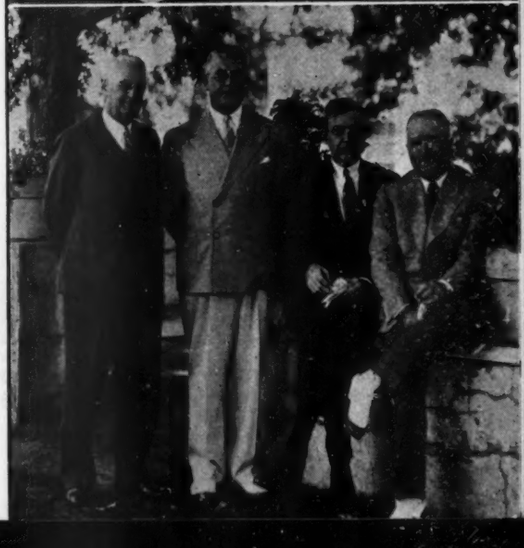
The action follows complaints from many of the association's membership that allowables and proration as now enforced were working a hardship on many operators, who either were unable to obtain pipe line connections or who were forced to accept drastic reductions in their current output.

Charles F. Roeser, of Fort Worth, president of the association, spoke briefly at the opening session of the Interstate Oil Compact Commission this morning, explaining some of the conditions outlined in the association's memorandum. He estimated that there would be approximately 1,000 wells in the Mid-Continent without connections starting Monday, when several hundred wells are scheduled to lose their present connections. He also referred to the curtailments that have been made effective in several areas by purchasers.

He also called attention of the commission to the pending reciprocal trade agreement sponsored by Secretary of State Hull, which provides tentatively for a reduction in the existing import duties on crude oil and fuel oil now amounting to 21 cents per barrel. Roeser maintained that a reduction in the import taxes would endanger the position of the industry in this country and maintained that it was unfair to domestic producers. Col. E. O. Thompson, of the Texas Railroad Commission and chairman of the compact commission, has agreed to appear at a Washington hearing during August in opposition to the proposal to reduce import duties on Venezuela oils.

"Conservation principles justify the position that proration must begin with the flush producing areas and that the wells of small and settled production should not be made the subject of proration," said the I.P.A.A. statement. "This principle of conservation so well established is now being violated in many of the oil-producing areas and will eventually result in impairment of the entire conservation program and the abandonment of many wells, occasioning the loss of valuable reserves which should otherwise be recovered. Many of the inequities could be corrected by a proper understanding on the part of the purchasers of crude petroleum of the effect of their acts."





In the Pictures

D. R. Snow, Barnsdall Oil Co.; Jack Steele, Federal Tender Board; Wirt Franklin; G. W. Holland, Petroleum Conservation Division, Department of Interior; J. C. Noland, Barnsdall Oil Co.

W. M. Downing, Colorado; W. R. Boyd, Jr., A.P.I.; V. E. Cottingham, Texas Railroad Commission; H. F. Meyer, Kansas Independent Oil Men's Association.

E. L. Smith, Tyler, Tex.; J. S. Bridwell, Wichita Falls; C. F. Roeser, I.P.A.A.

John Kane, Bartlesville, Okla.; Don Knowlton, Phillips Petroleum Co.; Burdette Blue, I.T.I.O. Co.; Frank Porter, Wirt Franklin, Inc.

SPARKS FROM THE NEWS

UNUSED POWERS

Authorities on oil and natural gas law attending the American Bar Association meeting at Cleveland agreed the states have powers not now exercised to enforce well-spacing and other sound operating practices.

NEWCOMERS

Michigan's two latest oil strikes in Clare and Allegan counties—100 miles apart—each have five tests under way with several new operators owning leases in that state for the first time.

REAL IMPORT

Eastern natural gas producers attending the Charleston meeting learned that the recently enacted Natural Gas Act may result in federal commission telling them what they will get for their gas.

SEISMOGRAPH PLANT

A central steam plant located by a seismograph survey which will furnish power to drill several wells in a California field producing below 13,000 feet is the latest contribution to "something new" in engineering operations.

MASS COOLING

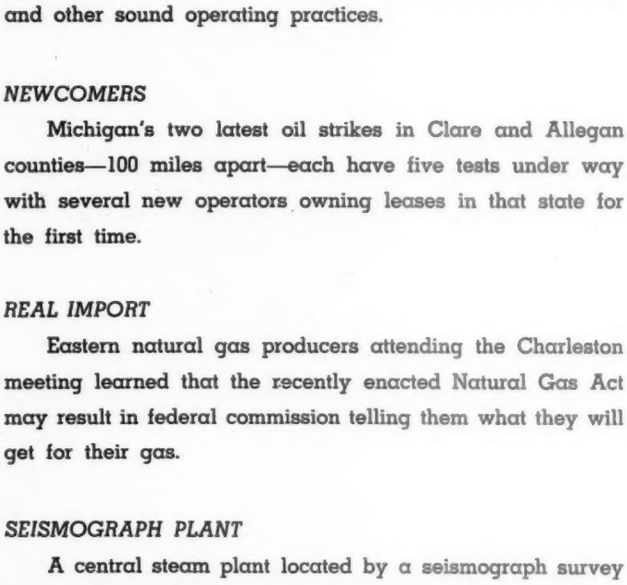


Photo by L. W. Breeden, Seminole

Unusual inside view of large cooling tower at Seminole, Okla., natural gasoline plant

OPPORTUNITY

Those who favor changes in the Interstate Oil Compact will be asked to make suggestions, keeping in mind the constitutional and practical limitations pertaining to such agreements.

GROWTH

Recent developments in the Illinois Basin indicate at least one field may approach East Texas in area.

ALL-YEAR ACTIVITY

Long Beach, awarded ownership of its tidelands, apparently will forget the winter tourists in favor of the all-year activities of oil development.

RECOMB THE DOMES

Discovery of oil on a salt dome where several dry holes had been drilled over a period of years may mean that all the non-productive domes of the Gulf Coast area will be recombed.

AT LONG LAST

Secretary of State Hull's belated note to Mexico regarding expropriation gives hope this country at long last will join with Great Britain in insisting that the rights of its nationals be protected.

STILL ACTIVE

The Panhandle of Texas does not receive the general attention it did in the twenties but it is still the scene of steady oil development with the largest natural gas reserves.

MAXIMUM

Economists are in agreement that total crude oil production of domestic fields should be kept at approximately present levels over balance of year.

NOT ALL SOLVED

Unconnected wells in several areas, reduced takings in certain fields and lack of price parity in crude price schedules, are proof that the oil business still has problems.

Spacing Regulations Justified Under Law, A.B.A. Is Told

CLEVELAND, Ohio, July 27.—Legal remedy for unnecessary drilling under proration occupied the Mineral Law Section of the American Bar Association at its meeting here this week.

The indictment was drawn by James A. Veasey, vice president and general counsel of the Carter Oil Co., who said: "The blind incentive back of the present campaign of drilling in developed fields rests in the processes of proration. To gain a higher allowable the operator drills, ignoring the economics of his own situation and disregarding the general stability of the industry."

Well-spacing and pooling of units was considered the necessary corrective and discussion concerned the legal and constitutional questions involved.

Mr. Veasey, digressing from the familiar arguments, advanced a new proposition—the paramount-industry principle. He said in part:

The Paramount-Industry Principle of Constitutional Law

In the approach to this question, we ignore the idea of waste in the sense that reservoir energy should be conserved for larger recovery. We set aside also the proposition that a state, to conserve an irreplaceable natural resource, may establish such police regulations to that end as are necessary. We shall not here discuss the question of spacing and pooling based upon an adjustment of correlative rights, nor shall we consider the question of due process. The two latter questions will be reserved for further treatment. The contention we make here is simple. The oil industry is an indispensable one in every state in which it substantially operates. Within the phrasing of the topic now under discussion, it is a paramount industry in those states. Accordingly, the proposition is advanced that if, to promote the general well-being of the petroleum industry, and therefore the general prosperity of a state, the legislature should authorize an administrative body to establish spacing units in the oil pools of the state, adapted to the conditions of such pools and at the same time provide a method whereby adjacent tracts might be pooled to accomplish the purpose of uniform well spacing throughout the pool, such a measure clearly is within the power of the state.

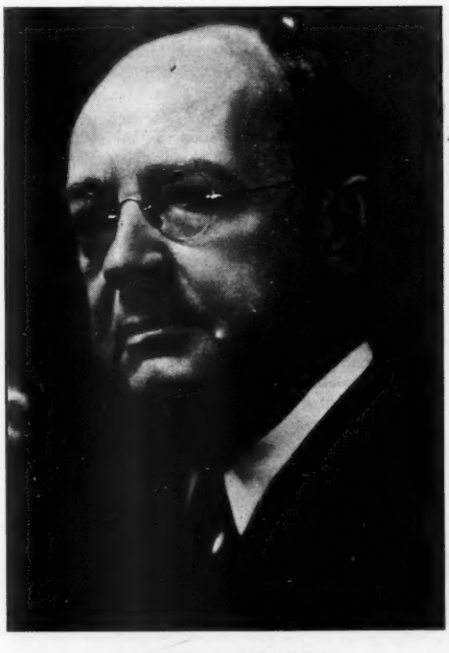
In brief, no one familiar with the business of producing oil will deny the assertion that in the important oil-producing states, the industry is the all-essential one. In one degree or another, the whole economic structure of the state is influenced, if not controlled, by this one great enterprise. In the circumstances, whatever a state, through its police power, may do to foster, encourage, and enlarge the business of producing oil, that very thing it should do. The industry has the right to ask that it be placed, and remain, on a solid economic foundation. If a police measure compelling the spacing of wells and the pooling of adjacent parcels is in the direction of bringing relatively permanent economic security to the oil industry of a state, then, within the principle of the cases that have been discussed, the measure would be upheld.

In the latest utterance of the Supreme Court of the United States in respect of conservation, the court assumed that a state had the power to limit and prorate production, either in the public interest or to protect correlative rights.[1] This paper, however, does not proceed on the principle of waste, nor in relation to conservation, excepting in the broadest sense of the term. The thesis put forth here is economic in its deepest significance. Therefore, without citing authority, and on the basis of naked principle alone, the thought is advanced that no operator in an oil pool absolutely may control the activities of his neighbors, or others in the pool. The owner of a 1- or 2-acre tract has no absolute constitutional right to so drill his property that his more prudent neighbors owning 10- or 20-acre tracts must drill as does he. Every operator in an oil pool has the constitutional right to look into his own economic situation and prospects and, within reasonable bounds, to drill accordingly.

Even if the adjustment between the wise operator and his aggressive neighbor were a matter between the two, the police power still could step in and compromise the conflicting purposes of the two on a reasonable basis; but, usually, where this conflict of purpose exists, there will be found two or three operators thinking of the day and not of the morrow who, in an excess of zeal and selfishness, do things that in ordinary circumstances control that which every other operator in the pool must do. Out of this grows the idea which, independently of direct authority but on solid principle, is here advanced, namely: That neither one nor a small group of operators in an oil pool can control the spacing of wells therein; that the other operators who wish to space their wells widely have a constitutional position which a legislature, through a police measure regulating spacing reasonably adjusted to the situation of the two groups, may compose and adjust. All that is needed is that the act of the legislature and any adjustment order made there shall not be arbitrary or unreasonable.

The Question of Due Process

Here, we set aside any objections that might be raised to a well-spacing and pooling statute on the ground of delegation of legislative authority, or that the necessary legislative standard for the guidance of the administrative agency has not been set up. The penetrating attack on any conservation statute is the raising of the Due Process Clause of the Fourteenth Amendment. Logically, in debating constitutional questions, the treatment first should deal with the matter of legislative power and then test the exercise of that power by due process. In as much as the defense of due process was urged in every one of the cases discussed in relation to the paramount-industry theory, there has been a mingling of the power concept on one side and an undue exercise of that power on the other.



JAMES A. VEASEY

Constitutional Principle

Heretofore, we have advanced two principles. The first is to the effect that a state legislature, to protect and encourage a highly essential industry, may provide for the statutory spacing of wells and the pooling of adjacent tracts to accomplish that purpose. The second is that the same objectives might be reached under the doctrines of correlative rights. There remains for consideration the extent to which the Due Process Clause of the Fourteenth Amendment may interfere with these legislative powers, legitimate, if properly exercised. Little time will be lost upon this subject. Unless the method of spacing and of pooling set up by a legislature is arbitrary and unreasonable, the statute will be upheld. Not only has this constitutional principle prevailed for years, but the tendency of all of the late decisions of the Supreme Court of the United States clearly indicates that community or general welfare almost invariably will prevail over individual property rights.

The exact posture of the immediate question is this. The Eighth Circuit and the Supreme Courts of both Kansas and Oklahoma have upheld city ordinances, not only providing for well spacing, but the pooling of adjacent properties to that end. In the Eighth Circuit case, the Supreme Court of the United States denied a writ of certiorari, and in the brief of the complaining counsel supporting the application for a writ the question of due process was raised just as definitely and conclusively as it could be raised. In principle, the sustaining of Rule 37 by the Circuit Court of Appeals for the Fifth Circuit, wherein certiorari was denied by the Supreme Court of the United States, well spacing at least was upheld.

This brings us to the point which has been a matter of concern to petroleum engineers and oil lawyers for some years, namely, the balancing of the question of recovery with the size of the spacing unit. In approaching a discussion of this question, the enactment of an enlightened proration statute is assumed; allowables are not to be determined either on a per-well or on a potential basis, but upon the foundation of all of the factors which the latest engineering opinion will support. In these circumstances, all that constitutional law requires is a fair approximation between recovery from a particular pool and the requirement that one well only shall be drilled on that tract. This covers the question of statutory well spacing.

Then arises the constitutional aspects of pooling adjacent tracts. Assuming a well-considered and reasonable allocation formula established by statute, the situation comes to this: The person having the right to drill a parcel within an established unit may do so, his allowable, however, to be reduced on a basis that will be fair between him and the person having one well on a unit. He should be given the alternative right to participate in the production from the one well drilled on the unit, of which he owns a parcel, by sharing the cost correspondingly. Having the pri-

[1] Thompson v. Consolidated Gas Co. 300 U. S. 55.

mary right to drill, with his allowable reduced on a reasonable basis for the protection of the whole scheme of well spacing, that alone would withstand the test of arbitrary and unreasonable legislative action. Having the alternative right to share in the production of the permitted well on a reasonable basis, the case again is fortified. All that has been said assumes that the royalty owners, not on a strict acreage basis but under a standard reasonably established by the legislature, shall share in the production of all wells on the unit. When the whole range of cases involving due process is examined, there certainly is no substantial obstacle in the may of legislative enactments that will compel the spacing of wells and the pooling of separate parcels within a spacing unit to accomplish that purpose.

The Implied Covenants

If, by valid statute and orders of the administrative agency, well-spacing units are established and adjacent tracts are pooled as part of the spacing plan, the implied covenants to offset and for further drilling must yield to this valid exercises of the police power. This has been held so many times that a citation of authority is unnecessary.

In conclusion, we return to the words of the Greek philosopher uttered nearly 2,300 years ago. The profit motive must control the business of producing oil, as it does every other enterprise. Even a measurably intelligent self-interest should indicate to the oil producers of America that the drilling of unnecessary wells is an economic crime. In the language of the old philosopher, to do so is to manifest an excess of selfishness. Unless sanity, through cooperation in the industry, returns, every important oil-producing state should have a statute under which proper well spacing may be enforced and under which small tracts in any spacing unit may be pooled on the basis of participating in the production from the unit.

Power of State

Two papers on recycling gas, repressuring oil sands and gas storage as conservation measures were presented, C. C. Small, of Amarillo, discussing the legal aspects, and J. H. Dunn, production engineer, Lone Star Gas Co., dealing with the engineering phase. The following extracts are from Mr. Small's paper:

The question arises as to the power of the state to exact a mandatory or an affirmative operation such as restoring casinghead gas to an oil sand where such gas is used for purposes ordinarily lawful, or to require that pressure be replenished by introducing extraneous water or gas. From information furnished by Mr. Dunn, we find that a negative answer to these questions means that the state must sit idly by and see oil fields depleted by the extraction of a fractional part of the recoverable oil and that it must reconcile itself to the use of practices that places the major portion of the reservoir content beyond the reach of human agencies, which is but to say that the state is powerless to prevent waste in its most flagrant form. The writer is unwilling to attribute such impotency to his state.

In cases where a constant pressure must be maintained in the reservoir in order to recover the natural gasoline, distillate, or other liquids in the gas, it is clearly within a proper exercise of the police power of a state to require all residue gas to be returned to the reservoir in order to maintain the pressure and make full recovery possible. This would appear reasonable in all cases where the value of the hydrocarbons that would be lost is substantially greater than the value of the gas when used for various legitimate purposes.

Doubt arises in the minds of many as to the power of the state to force an operator to purchase gas or water with which to restore gas energy or hydrostatic pressure in a reservoir. It is conceded that the state cannot require the owner of properties which have been depleted by improper practices to repressure the same so that oil otherwise unrecoverable can be produced, but in order to make it possible for the several persons having a common interest in an inactive reservoir to recover oil rendered inaccessible by ordinary means, we see no reason upon which to base a conclusion prohibiting the enactment of valid laws authorizing cooperative action through the medium of political subdivisions created and empowered to discharge this function and charge the necessary expense to the combined properties. Statutory provision providing the machinery for the creation of such agencies is all that is necessary. Where the restoration of pressure is reasonable from the profit standpoint, it will be undertaken, but where it appears unreasonable, it will be ignored.

We can no longer tolerate the lack of regulation which leaves the prudent operator at the mercy of the unscrupulous operator who is actuated by avarice and greed for quick profits. So in the main, we must place the blame for the fact that the average recovery of oil from reservoirs now depleted is less than 50 per cent, and for the fact that vast quantities of dry and casinghead gas have been squandered, on the lack of knowledge, the lethargy and indifference of law-making bodies, and to the disposition of courts to cling to the old ideas rather than adopt the new conception of waste. It would

ROBERT E. HARDWICKE

be a sad comment on the powers of a sovereign state to contend that such wasteful practices must continue.

Bearing in mind that it would be folly for one operator to attempt to maintain pressures in a reservoir owned by various people, we appreciate the force of this case when applied to an effort at compulsory pressure maintenance. The conduct of all operators must be regulated to protect their property rights as individuals, and to protect the general welfare by preventing depletion of a resource in which the state is vitally interested.

Logical minds can reach but one conclusion as to the merits of pressure maintenance in the ordinary oil field. Millions of barrels of oil have been recovered and utilized, and vast quantities of both oil and gas have been restored as a part of our underground petroleum supply as a result of pressure restoration and pressure maintenance. These resources were recovered from oil producing formations or were restored therein through repressuring and pressure maintenance. Conditions may be found where pressure maintenance would not be practical, yet striking examples show such a variation as to the depths of the wells, as to the weight of the pressure against which gas was introduced, and as to the extent depletion had gone before restoration of pressure was attempted as to leave no doubt of the fact that the operation is practical and sound in a vast majority of oil fields.

Engineering Phases

Extracts from Mr. Dunn's paper follow:

Although the actual percentages of the total oil content of separate reservoirs that have been recovered, vary with the conditions that have affected those recoveries in the separate fields, it is generally conceded that under the operating procedure of natural flow and pumping usual in the past, from 65 to 75 per cent of the total oil has been left unrecovered.

While there has been some increases in ultimate recoveries under proration, and undoubtedly the producing lives of fields have been extended where production rates have been restricted, it is questionable whether in a majority of our fields ultimate recovery figures have been greatly increased. From the best information available it appears that more than 70 per cent of all of the active wells in the United States today are pumping or producing by artificial lift, or nearly 250,000 out of a total of over 350,000 active wells.

For each reservoir it is possible to determine the most efficient rate of production which, together with proper well spacing and operating procedure, will provide the practicable means of recovering the greatest ultimate quantity of oil therefrom. The problem arises as to how this most efficient rate of production can be made to conform to the actual demand for the oil. It can be made to conform to the market demand only so long as efficient utilization of reservoir energy can be obtained while the oil is being produced. An operating procedure which includes the return of the gas produced with the oil to the producing formation offers the best opportunity of realizing this ideal condition.

Recycling of Gas

With the discovery of gas reserves at greater depths it became apparent that when the gas was expanded to a certain pressure below reservoir pressure many gas wells were capable of producing commercial quantities of hydrocarbon liquids as a result of condensation. These hydrocarbon liquids, usually water white, have been referred to by some as distillate, and by others as condensate. Be that as it may, it appears that for the most part this product is a gas in the reservoir under initial conditions of temperature and pressure and it appears, further, that the liquids referred to may be more efficiently recovered if produced while the reservoir pressure is being maintained above a certain level. Some of this liquid is produced by reason of a physical characteristic of fluid hydrocarbon mixtures which change from the gaseous to the liquid phase as a result of the reduction of pressure at temperatures above the critical temperature for the mixture. The condensation which occurs at temperatures above the critical temperature for the mixture is called retrograde condensation. When expansion takes place in the reservoir a portion of the condensable liquids are formed in the producing formation. If, on the other hand, the reservoir pressure is maintained during the production of the gas, the expansion may be controlled at the surface to the extent that liquids are condensed and recovered.

The recycling of gas is process whereby the gas is produced, expanded, separated from the condensed liquids, recompressed, and returned to the reservoir, the liquids recovered being the result of both retrograde condensation and the normal condensation which results from reductions in temperature.

Repressuring and Pressure Maintenance

While there are a few outstanding examples of increased recovery efficiencies that have been brought about by repressuring and pressure maintenance operations in oil producing formations, the application of these processes has been made only to a very limited extent. The possibilities for increasing oil recoveries by the adoption of procedures designed to maintain, or even to partially maintain, reservoir pressures are being widely discussed but very little has been done to bring about a realization of these possibilities.

It is generally conceded that in most instances only 25 to 35 per cent of the total reservoir content of oil has been recovered by customary methods of natural flow and pumping. It is, likewise, generally conceded that this recovery percentage can be increased to more than 70 or even as much as 80 per cent of the reservoir content by intelligent repressuring and by the maintenance of reservoir pressures. In addition to the possibilities for the increased recoveries of oil through repressuring and pressure maintenance, the gas used for this purpose can be made available for commercial consumption after the production of the oil.

Gas Storage

Large volumes of distress gas have in the past and are at present being produced with oil in the many fields over the United States.

It seems that the question of gas storage in depleted

(Continued on Page 111)

NEW EXECUTIVES: *Harry A. Wallace, Jr., Charleston, president-elect, and W. R. Kerwood, Jr., St. Mary's, new vice president of West Virginia Oil and Gas Association*

Federal Control Near For the Gas Industry

By J. P. O'DONNELL

CHARLESTON, W. Va., July 28.—The extension of federal control into the natural gas industry was pictured as one of the certain results of the Lea Natural Gas Act by William A. Dougherty, counsel, Standard Oil Co. of New Jersey, at the annual meeting of the West Virginia Oil and Natural Gas Association here. Between 600 and 700 oil and gas operators, the largest number ever to attend a meeting of the association, heard Mr. Dougherty declare, "For 40 years you producers have carried on the business of producing natural gas free from governmental interference. That period may be coming to an end."

Mr. Dougherty reviewed the history of the West Virginia gas industry, pointing out that since 1906 production has ranged from 100,000,000,000 to over 300,000,000,000 feet annually; that in 1906 the state ranked second in the production and in 1936, fifth; that while the field price paid for gas in the Texas Panhandle is 4 cents against 18 to 20 cents for West Virginia, gas from the latter is supplied to Pittsburgh, Cleveland and Columbus, at the lowest prices in the United States. Declaring the people should be pretty well satisfied with the job done by the natural gas industry and satisfied to pay what has been an inadequate price, he said that, notwithstanding this, the desire of consumers and political leaders to beat down the price has resulted in the passage of a law to regulate the price of gas sold in interstate commerce.

"You may be surprised to learn that the federal government deems it a necessary part of its business to reach down into the State of West Virginia, as well as every other gas producing state in the country, and decide what you should receive for your gas. The law does not specifically state that should be done but there is a possibility, and a strong one, that eventually that very thing will take place," he declared.

Pointing out it is "not necessary that a company be engaged in the transportation of natural gas across state lines to come within the provisions of the law," Mr. Dougherty said the test will come in determining what is a sale in interstate commerce and "that is where a good many of you gentlemen will come into the picture." This decision will be one of the first considerations of the commission since many companies purchase more gas than is distributed in West Virginia, so that some of it, of necessity, moves into interstate commerce and gas which so moves can sometimes be identified.

"I think you will agree with me," Mr. Dougherty said, after citing several sections of the law, "that when a law directs a commission to investigate the cost of production even though it has no jurisdiction over the sale; gives to the commission jurisdiction over the question of quantity of gas reserves that are held, and reasonableness of the delay rentals that are paid, and requires the filing of copies of all leases, royalty agreements, then that law is giving the Federal Power Commission a great deal of control over the production of gas even though in Section 1 there is the specific statement that it shall not apply to production."

Later, Mr. Dougherty said: "It is interesting to note that the commission is prohibited from ordering any increase in a rate unless it is in accordance with a new schedule filed but is given authority to decrease the rate if it is unjust, unduly discriminatory, preferential, or is not the lowest reasonable rate. With such a provision in the law, it seems evident that the lowest reasonable rate is the one that is bound to be fixed by the commission."

If an investigation reveals that the only place a cut in price can be effected is in the price being paid to the producer, "is it not to be expected," Mr. Dougherty questioned, "that an investigation would be made into the investment of that producer and his expenses in producing gas? . . . Certainly you can see that under such a situation there would be a great temptation to look into the prices being charged by the producer to determine whether a little reduction here might be made. If that is ever attempted, the trouble that will result is apparent." He pointed out that the adoption of an average cost would require some producers to sell at much less than their present price and some would have to charge more.

"It is going to be interesting during the next few years to observe just what effect this regulation will have on the natural gas industry. Certainly all of us hope that it will be beneficial, or at least that it will not be detrimental. A lot of us have felt it is wholly unnecessary and would result primarily in increasing the expenses of the natural gas industry beyond any benefit to be gained by the consumer, unless of course, arbitrary rate reductions are made without regard to the effect on the gas companies. Such regulation, however, was inevitable as it is the policy of the government these days to let no industry go unregulated. The policy of the national government has been more and more toward one of the eliminating independent private activity and of substituting control wherever the government felt so declined."

Mr. Dougherty cited the N.R.A., the National Labor Relation Law, and the Fair Labor Standards Act of 1938 as examples of this tendency. "It is easy to realize," he said, "that the government more and more is taking a part in all kinds and characters of business. No longer can an employer operate his factory in the way deemed best to him. The government has stepped in and is now determining the underlying policies which he must apply. His labor policies can no longer be of his own making but are fixed by the government and the wages and hours which apply to his men are now being regulated. An investigation is now being carried on into the type and character of our business institutions for the purpose of determining what sort of legislation is needed in order to impose new kinds of regulatory controls. There is one thing that the business man is still permitted to figure out for himself and that is how to raise the money necessary to support the great number

(Continued on Page 26)

Section of crowded banquet room

Competitive Crude Causes Loss of Outlets in East Texas Field

In the face of a general overall improvement in the petroleum industry, an acute situation has developed in the East Texas field where several pipe line companies have released about 450 well connections, reportedly to take cheaper crude from out-of-state pools or because of other factors affecting East Texas production.

Exact number of wells cut off had not been ascertained, but one company official placed the number at 434 as of August 1 and another official said the total would approximate 450 and possibly 500 wells. Bell Oil & Gas Co. released around 150 connections, Danciger Oil & Refineries, Inc., a similar number and a third purchaser was reported to have cut off around 200 wells. In addition, Crown Central Petroleum Corp. contract with F. H. E. Oil Co. will expire soon and was not expected to be renewed, thus leaving the latter firm's wells without connections. The 434 wells reported to have been cut off August 1 had a daily allowable of 65,000 bbls.

The comparatively high price paid for East Texas oil was thought to be largely responsible for this development. One survey indicated that some 200,000 bbls. of out-of-state oil, coming largely from the Schuler, Lisbon and Rodessa pools, was being brought in and processed in the East Texas district. This crude, it was pointed out, could be imported for about 40 cents less than is paid for East Texas oil, which commands a premium over crudes of the same grade in the Mid-Continent.

A spokesman for one of the purchasers said it is strictly an East Texas problem that will solve itself if the price is adjusted—upward for the crude from other areas or downward for East Texas oil. "The East Texas oil is of excellent quality, but the price is too high in view of the fact that oil from the nearby fields of Louisiana and Arkansas can be bought for less money. Much of the foreign and Atlantic Coast demand for East Texas oil has been reduced and practically all the big producers are running East Texas crude to storage. In view of these factors, we feel the price for crude in the big field is out of line."

One major company was reported to be running 60,000 bbls. of East Texas crude to storage daily, with other big purchasers storing oil in varying amounts. Others of the big buyers were refusing new connections daily.

Some of the producers who have lost connections have found other buyers, and many of those that have not obtained new connections are reported running their oil to storage or otherwise disposing of it. Few wells actually have been shut in as yet, it was said.

The Bell company explained that 60 of the connections they released were accommodation connections they had been handling for another purchaser for the last two months and which they had turned back to the original purchaser according to contract. Some of their other connections were released because of unsatisfactory location of wells or because of intrusion of salt water.

Turner Valley Conservation Board Puts Curb on Gas

CALGARY, Alberta.—Outlining the policies of the Oil and Gas Conservation Board for Alberta, Chairman W. F. Knode stated that the board desired Alberta fields to produce as much gas and oil as necessary to meet legitimate markets and no more. Wastage of oil and gas would have to be stopped. The board was prepared to cooperate with a view to extending the market for Alberta oil and to enable operators to dispose of as much of the product as they were capable of producing non-wastefully.

In future naphtha will be considered a by-product of gas wells in Turner Valley, and wells described as naphtha wells will be considered gas wells. These wells will be permitted to produce only as much gas as necessary to supply the available market, and wastage will be halted.

The conservation board has agreed upon a new method of determining crude allowables in Turner Valley. Allowables will be based upon the flow through a small orifice, tentatively set at 2 inches, for a period ranging from 3 to 24 hours, flow being wide open through this orifice during the test. The size of the orifice may be reduced or increased, determined by actual practice. Formerly, allowables were based on the 24-hour open flow, following 10 days production at a tentative quota figure.

Tests on the new basis have already been started and official figures will probably be announced early in August. If tests now under way prove inconclusive, further tests will be conducted.

Operators anticipate that the new method will cut down production of larger wells somewhat and increase that of smaller wells, with little net decrease in the field output. In future the word "production rate" is to be substituted for "potential." Open flow will not be dealt with by the board, though operators are permitted to give out open flow figures.

An Alberta order in council formally placed Turner Valley under the jurisdiction of the conservation board. The area defined as Turner Valley is somewhat larger than the proven field, and includes areas still regarded by operators as wildcat. The areas included are:

Range 2w5: Sections 31 to 34, Township 16; west two-thirds Township 17; west two-thirds Township 18; west half Township 19; west half Township 20; southwest quarter Township 21.

Range 3w5: East half Township 17; east half Township 18; east half Township 19; east two-thirds Township 20; east two-thirds south half Township 21. This includes considerable untested territory north, west and south of the proven field.

Ickes Claims Timbalier Island Under Federal Jurisdiction

WASHINGTON, D. C., Aug. 1.—Secretary Ickes today ruled that East Timbalier Island, 65 miles south of New Orleans, is federal property and is in a known oil area and he ordered it to be offered for lease immediately by competitive bidding.

He rejected claims of the State of Louisiana, Gulf Refining Co., and Southern Sulphur Corp. that the island is state property, stating that the federal government has several times asserted its authority over this island without protest from the state.

The fact that Gulf is producing oil from Timbalier Bay, near the island, was cited by Ickes as proof that the area is within a known geologic structure and therefore subject to lease only by competitive bidding. He upheld the land office in refusing a non-competitive lease offer from John F. Richardson, Lafayette, La., and Charles F. Consaul, Washington, D. C.

Deep Eastern Colorado Test To Be Drilled by Plymouth

DENVER, Colo., Aug. 1.—With the release this week of a location by Plymouth Oil Co. (Benedum & Trees) for a deep test in eastern Colorado, it has become permissible to give a general outline of events leading up to the opening of a new chapter in the search for oil in the vast plains region east of the Rocky Mountain range. It marks a distinct departure from the theory which has governed the drilling of a number of wells in that area the past few years following the leasing of around 4,000,000 acres by major companies, and the revelation of geological research conducted upon a more extensive scale than any heretofore undertaken in this part of the country.

The test is in the C SW SW section 19-10s-60w, in Elbert County, 42 miles northeast of Colorado Springs and 62 miles southeast of Denver, 5 miles from Ramah, on the Chicago, Rock Island & Pacific. It will be Plymouth Oil Co. No. 1 Brosky-Union Pacific. Ten car loads of equipment are on the siding at Ramah and five additional cars en route. The outfit is described as one of the largest ever used in this territory and includes a 138-foot derrick and heavy-duty rotary rig. The first objective will be the Dakota at around 6,500 feet, but it is planned to go to 8,500 or 9,000 feet, if necessary.

The structure to be drilled is one of several under lease to a group of Colorado business men and others, comprising approximately 400,000 acres, of which 200,000 acres are within the closing contours. The exact location of these structures, other than that to be tested at once, is not disclosed.

California August Quota Set at 610,000 Bbls. Daily

LOS ANGELES, Calif., Aug. 1.—The Central Committe of California Oil Producers, official curtailment group in California, has officially set the California August quota at 610,000 bbls. per day with the stipulation that crude oil production in the state must not exceed 615,000 bbls. daily. This is 5,000 bbls. per day less than the allowed daily quota that prevailed during June and July and is in line with a general desire to keep crude and refined oil stocks down to a minimum during the summer period in order to allow some leeway during the winter months when stocks begin to accumulate again. The allocation committee is working on the breakdown between the various fields and upon completion of this Umpire Pemberton will begin the allocation among operators in each field. At the annual meeting of producers held late last week, Laurence Vander Leck, who has done an excellent job in harmonizing the various field committees and in securing a closer adherence to curtailment, was reelected chairman of the Central Committee for another year. His reelection was generally expected.

Richfield to Take Union Pacific Wilmington Production

Richfield Oil Corp. has signed a five-year contract with the Union Pacific Railroad, effective January 1, next, to take up to 20,000 bbls. of crude daily from the railroad's oil properties at Wilmington, Calif.

The contract provides that Richfield will supply the entire fuel needs of the railroad in the Pacific Coast area during the period.

THE MARKETS*

CRUDE OIL: *There are numerous reports regarding crude being available under the posted schedules from wells which have been disconnected by their former pipe line outlets, or which have been curtailed to a small fraction of their output. Checks, however, have so far failed to reveal a substantial quantity of crude moving on this basis. Some observers again feel that East Texas may lose its premium position among Mid-Continent postings due to the reduced purchases of the smaller buyers.*

REFINERY: *Refinery gasolines are reported soft in several areas despite the heaviest domestic movement of the year. New demand for residual oils has also been disappointing in several areas. Good movement of gas oils and distillates. No general improvement in lubricants.*

TANK-WAGON AND POSTED DEALER: *Gasoline price changes are confined to a few cities where there have been intermittent price wars. Considerable price cutting in third-grade material.*

FINANCIAL: *Minor changes in oil stocks. Average of 30 representative stocks for week ending July 30: High, 32.64; low, 30.76; close, 31.32. Week ending July 23: High, 32.60; low. 31.05; close, 32.15. Week ending July 31, 1937: High, 43.27; low, 41.55; close, 42.59.*

**Detailed information in market section.*

The OIL AND GAS JOURNAL

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States Have the Power

Developments at the Colorado Springs meetings taken with the discussions before the Mineral Law Section of the American Bar Association at Cleveland, Ohio, emphasize the need of expanding state regulatory powers with a view to bringing about more efficient and equitable operations of oil properties.

The legal fiction which treated oil producing operations as a game, forcing the drilling of unnecessary wells and wasteful production, has been superseded by greater technical knowledge. The greatly increased revenue from oil obtained by the states, and the vital importance of the industry to the welfare of the public in the oil-producing states, as well as the necessity of conserving an irreplaceable natural resource, have completely changed the point of view.

It is realized, too, that the known reserves accumulated under proration can be recovered only by restriction against wasteful operating practices.

The matter of unconnected wells, the failure in certain areas to secure satisfactory outlets, and many of the other operating difficulties complained of at Colorado Springs are fundamentally largely the result of conditions which go back to the control of well spacing.

It has resulted in the drilling of many wells which have contributed to the problems centering around the operation of oil properties on a conservation basis.

As the operations of the industry become more technical, with the emphasis placed on the largest ultimate recovery at the lowest possible cost, the necessity to solve these problems becomes more and more insistent.

Substantial progress has been made in recent years in conservation but it is now apparent far greater accomplishments can be attained, provided the industry is given the needed legal support to carry them out.

Repressuring, maintenance of pressure, recycling of gas, gas storage and water-flooding, are all developments which will and should have an important part in the oil operations of the future.

It is equally apparent that these operations can not be maintained efficiently and profitably unless it is possible to coordinate the operations of an entire area.

A small minority actuated by selfish motives can make it impracticable to carry on these operations in a manner which will be beneficial to all the operators.

To accomplish this objective of the most efficient operation it will be necessary to start with spacing of the original well in the field which, then continued, will result in the maximum recovery from all the producing horizons.

Discussions at the Cleveland meeting leave no doubt the states have the authority to back these operations by laws and regulations which will make it impossible for a small interest to insist upon a position to which it is not entitled under any reasonable interpretation and thereby thwart the desires of the large majority.

One authority pointed out that, wholly aside from any idea of prevention of waste or the adjustment of correlative rights, the states have the duty to establish spacing units in oil pools in the interest of the general welfare of the state.

The widening knowledge shown by the courts in regard to these matters, the new concepts of what constitutes rights guaranteed by the state and federal constitutions, have furnished a background for more conclusive action by the states.

Present conditions in the industry, and in the states, demand that, since the prosperity of the industry is directly bound up with the wellbeing of the state, immediate consideration be given to the remedial actions indicated by these discussions.

Hearing on Venezuelan Excise Tax; Motor Truck Defense Organized

By HENRY D. RALPH

WASHINGTON, D. C., Aug. 1.—Petroleum will be the chief topic of discussion at the hearings on the proposed reciprocal trade agreement with Venezula before the committee for reciprocity information August 15, since crude petroleum and fuel oil are the only dutiable articles of any importance on the list of commodities to be considered.

Briefs against reduction of the excise tax of one-half cent per gallon on imported crude and fuel oil will be filed by the Independent Petroleum Association of America and probably by many other organizations and individuals, though the committee will not make these public, and oral protests are expected to be made at the public hearings. The chief arguments against the reduction, which could be as much as 50 per cent, probably will be that imports should be restricted as long as this country is threatened with overproduction, and that a reduction would not benefit the people of Venezuela since oil exports are controlled by large British and American companies. Coal interests, particularly those selling along the Atlantic seaboard, will also oppose a reduction on the ground that this would further increase the competition of fuel oil with coal.

Few For It

Few, if any, witnesses are expected to appear at the hearings to urge reduction in the import tax, but this would not mean the proposed reduction would go over by default, since the State Department negotiators will work up their own case, and most of the arguments against it probably will not be of a type to carry much weight with the department. In the first place, crude and fuel oil would not be on the list of bargaining articles unless the Venezuelan government had requested their inclusion, which indicates that government feels Venezuela would benefit by a reduction. In the second place, petroleum constitutes more than two-thirds of Venezuela's total exports to the United States and much of the remainder is non dutiable tropical products, and the State Department takes the position that to increase our exports to any country we must give that country the necessary dollar exchange by permitting its products to enter the United States in greater volume.

The threat of competition with domestic producers of oil and coal is an old story to the tariff bargainers, as it is heard in connection with almost every product included in the agreement already negotiated. Against the alarms of domestic oil and coal men the department analysts will weigh the official figures showing total imports of crude petroleum in 1937 were approximately only 2.3 per cent of total runs to stills in this country, and that tax-paid fuel oil imports totaled some 7,000,000 bbls. against domestic demand of 324,000,000 bbls. They have a sort of rule-of-thumb procedure under which they assume that where imports are such small percentages of domestic production the duties can be cut without much injury unless special circumstances can be shown. Also the bulk of crude imports came from Venezuela which would benefit most by a reduction, though the reduction would be granted also to all nations with which we have most-favored-nation treaties, including Colombia, Mexico, and the Netherlands possessions. The bulk of fuel oil came from Netherlands Indies.

Another factor is that the excise taxes on imported petroleum and its products were originally designed as temporary measures, imposed for two years in the revenue act of 1932 when all industrial conditions were uncertain and there was much overproduction in the domestic industry. These taxes have been extended from time to time, but are now scheduled to expire June 30, 1939, (unless the Treasury Department asks a two-year extension), so the State Department could assume that since they are to be wiped out entirely next summer the domestic industries might actually benefit by having them cut in half this fall to make the transition less abrupt.

Over and above all this is the urgent desire of the State Department to cement goodwill in Latin America and to extend our trade there, a trade seriously threatened by European nations. This desire is finding expression not only in the trade agreements program but in other ways, the latest being the creation of a Division of Cultural Relations in the State Department comparable to the South American propaganda bureaus maintained by Germany and Italy. In the eyes of State Department officials, the long-time benefits which may be expected from increased commercial relations with South American nations will more than offset what they consider minor or temporary dislocations caused to domestic producers by reciprocal trade agreements. This is not written with any knowledge the department is determined to cut the oil import taxes regardless of any arguments which may be presented in opposition, but simply to point out its decision will not rest solely on the volume of testimony presented at the August 15 hearings.

Motor Trucking

A new association to keep the highways free for privately owned motor trucks has just been formed in Washington under the name of the National Council of Private Motor Truck Owners. Two members of the American Petroleum Industries Committee have been named on the temporary board of directors, John F. Winchester of New York and F. E. Packard of Chicago. It is planned to open offices in Washington and campaign for the support of the operators of the 3,500,000 privately operated trucks, a sizeable block of which are engaged in the transportation of petroleum products.

The purpose is to promote the safe and economic use of highway transportation by agriculture and industry in private motor trucks,

STATE CAPITALS

OKLAHOMA

PURCHASERS of crude oil in Oklahoma were urged to give preference to the stripper areas in an order issued late Monday by the corporation commission, setting the August allowable production at 428,000 bbls. daily, same as the July allowable. The order had been delayed while the commissioners considered pleas of producers in southern Oklahoma, where pipe line proration was put into effect August 1 by two major buyers.

The request that preference be given to the distressed districts is not mandatory upon the buyers, but was inserted in the allowable order by the commission in an effort to maintain ratable taking and preserve the old, established sources of supply. In asking the buyers to take all the oil that can be produced in the stripper areas, the commission said:

"The commission further finds that many of the wells in the nonprorated or stripper areas in Oklahoma must be produced at full capacity in order that said wells will not be prematurely abandoned, thereby causing waste, and that the purchasers of oil should take from the stripper or nonprorated areas all the oil that can be produced before production is taken from the flush or prorated fields; that the full production of said stripper areas is necessary not only to prevent waste, but is of vital interest to the producers of said area and to the state as a whole."

The order and accompanying recommendation came after hearings before the commission at which southern Oklahoma operators pleaded for a full outlet for their wells.

Pure Oil Co. reduced its purchases in the Healdton field to 40 per cent, and Carter Oil Co. began holding purchases in 14 southern Oklahoma pools to 5 bbls. daily per well, effective August 1. Much of the southern Oklahoma oil is of low gravity and with sulfur content, and it was implied there is no market for that type oil at this time.

Reford Bond, chairman of the commission, who, with Commissioner A. S. J. Shaw, signed the August order, said: "We are not going to prorate the stripper field unless forced to do so. Under the order they can prorate all the oil they can sell. . . . If we should prorate other fields in an attempt to force the purchasers to take oil down there, we face a possibility of driving a portion of the market from the state."

The southern operators had suggested that allowables in other fields be reduced sufficiently to permit the buyers to take larger amounts in the older fields. Joe Ben Champion and Earl Q. Gray, Ardmore attorneys, representing the independent southern producers, asked that the stripper oil be placed in the pipe lines first.

Failing that, they asked the commission to order companies which have reduced southern Oklahoma purchases to make proportional reductions in other fields. Previously, other southern Oklahoma producers had appealed to the commission to halt pipe line proration and end what they termed "discrimination" in that stripper area.

Several independent operators appeared before the commission, urging action favorable to the stripper producers. Jeff Ewing, field superintendent for Cox & Hamon in the Wirt area, Carter County, said if all wells in the southern fields be reduced to 40 per cent under a ratable taking order that from 2,500 to 3,000 men would lose their jobs and many small wells would be abandoned. W. A. Delaney, Ada operator, declared the situation is economically bad because of a flood of oil from the Illinois and Louisiana fields and said "if the price of southern Oklahoma crude was cut 35 cents a barrel all objections to the quality of the oil would be removed."

C. W. Tomlinson, Ardmore geologist and producer, estimated 100,000,000 bbls. of oil remain in reserve in the southern fields, and said although many wells are down to small daily production further decline will be slow. He agreed that application of the 40 per cent purchase order to the entire area would mean wholesale well abandonment. Mr. Champion outlined the importance of the oil business to southern Oklahoma generally, declaring that "to cut runs 40 per cent in the Healdton field simply means that the operators can't pay expenses and, therefore, they cannot exist; they'll just have to quit business." He saw the possibility of federal control, declaring "if southern Oklahoma oil is subject to discrimination, then so is all Oklahoma oil—and then we will have to appeal to the United States government to get ratable takings." Mr. Gray asserted that "if the oil industry permits the strippers to be wiped out, then proration has failed," and declared "it is hard to believe purchasers have fought for southern Oklahoma oil for 25 years to find at this late date the crude is worthless."

The producers told the commission they had been unable to work out a plan whereby other purchasers would take a portion of the oil. The only relief in sight is the reopening of the old Wirt Franklin refinery at Ardmore, recently bought by W. C. Berry of Kansas City and Dr. Sidney Born of Tulsa. It will have to be reconditioned and may not be operated for the next 30 to 60 days.

ARKANSAS

THE ARKANSAS BOARD of Conservation last week granted increases in allowable production of the Jones sand of Schuler from 15,073 bbls. to 18,600 bbls. daily for the month of August. The boost was made on the strength that Atlas Pipeline Corp. of Shreveport will add to purchases in the field, taking 7,000 bbls. daily as compared with the former 3,000-bbl. daily purchases. Daily average production per well in the Jones sand of Schuler will average 300 bbls., as compared with about 288 bbls. during the preceding month.

The Reynolds lime horizon of Schuler retained the same allowable, at 1,000 bbls. daily, divided among five producers. Buckner was given 1,000 bbls. total daily allowable, also divided among five wells, and the Miller County sector of Rodessa was cut slightly from 9,700 bbls. to 9,674 bbls. daily.

In a report issued by the board, covering accumulative production in the state's flush fields, production in Arkansas is up 69 per cent above that of a year ago. Accumulative production in barrels, to July 1, 1938, in the field was given as follows: Buckner, 110,000; Magnolia-Village, 28,000; Schuler, Morgan horizon, 1,219,000; Schuler, Jones horizon, 2,435,000; Schuler, Reynolds horizon, 204,000; and Miller County, Rodessa, 2,707,000.

TEXAS

THE RAILROAD COMMISSION has continued the Sunday shutdowns during August and reduced the state allowable 2 per cent. Commission engineers figured the new allowable would permit a production of 1,417,805 bbls. on August 1, including the shutdown reduction. This would be 68,613 bbls. above the July basic allowable because there were five Sundays in July and four this month. The Bureau of Mines estimate is 1,377,800 bbls. The commission figured that since the underproduction thus far this year was 1.66 per cent about 23,536 bbls. of the allowable would not be produced, making the average daily output 1,394,269 bbls. East Texas was exempted from the 2 per cent reduction, as were a few other areas. The production factor in East Texas, 2.32 per cent of hourly potential, was unchanged.

C. V. Terrell, chairman, said continued Sunday holidays and the 2 per cent cut were necessary to keep production within market demand. He said gasoline stocks had continued to decline and stocks of crude likewise had dropped, "indicating that consumption is remaining at satisfactory levels during the present high consuming seasons." Gas and fuel oil stocks, however, have increased steadily for many months and now are about 37,000,000 bbls. higher than last year.

"Crude production has increased steadily during the month of July, and there are indications that production may at this time be in excess of the current demand. There are 117 wells remaining without an outlet in the K.M.A. field, and the commission has received information that wells in other sections of the state are likely to be disconnected if the present level of production is maintained."

Despite the 2 per cent reduction, the August 1 basic allowable, exclusive of Sunday shutdowns, will be 12,719 bbls. greater than on July 1, but 10,218 bbls. less than on July 18 and 19,852 bbls. less than on July 26.

Basic allowables by districts, exclusive of shutdowns:

Field—	July 1	July 18	Aug. 1
East Texas	512,037	512,742	513,893
Panhandle	80,795	81,082	79,461
Moore County	1,560	1,560	1,529
Osborne area	610	610	600
North Texas (including Anderson-Kerr)	620,869	64,807	63,511
Foard County	702	702	688
K.M.A.	17,850	19,201	18,817
Gant pool	348	348	340
West Central Texas	77,291	79,047	78,737
West Texas	217,508	221,210	219,671
East Central Texas	110,325	112,167	111,094
Southwest Texas	278,505	284,093	280,614
Gulf Coast	241,686	247,454	245,850
Total	1,620,086	1,625,023	1,614,805

Continuation of the shutdowns with a further pinching of allowables was ordered by Terrell and Commissioner E. O. Thompson with Commissioner Lon A. Smith not signing the order.

LOUISIANA

THE MINERALS DIVISION of the Louisiana Department of Conservation increased the state allowable quota for August 6,990 bbls. over the previous month's total, last week, bringing the total daily allowable to 256,712 bbls.

South Louisiana was given 182,165 bbls. daily, a gain of 5,440 bbls. over July, and North Louisiana received a 1,500-bbl. hike to 74,550 bbls. In North Louisiana, Cotton Valley and Libson were granted increased allowables, fixed respectively at 6,550 bbls., a 1,550-bbl. raise, and 11,000 bbls., an increase of 1,000 bbls. daily. Rodessa was cut from 38,000 to 35,000 bbls., due to pipe line proration during the past few weeks.

Oscar Nelson, president, United Carbon Co., Charleston; Samuel W. Meals, president, Carnegie Natural Gas Co., and H. A. Wallace, president, United Fuel Gas Co., Charleston. H. S. Brubaker, West Penn Public Service Co., Fairmont, who spoke on electricity in the oil and gas industry. Dan S. Keenan, vice president, Carnegie Natural Gas Co. and retiring president of association. W. A. Dougherty, counsel, Standard Oil Co. of New Jersey, who spoke on increasing governmental regulation

FEDERAL CONTROL

(Continued from Page 21)

of employes needed to carry out these regulatory policies. In that respect the government interferes very little."

The association was welcomed to Charleston by Governor Homer A. Holt, Mayor D. Boone Dawson and the retiring president, Dan S. Keenan, vice president of Carnegie Natural Gas Co., Pittsburgh, Pa. Mr. Keenan cited the attendance of nearly 500 operators at the two regional meetings held during the past year as evidence of their interest and urged a larger membership which, he said, is essential to the proper solution of the industry's problems.

The role of electricity in the oil and gas industry was described by H. S. Brubaker of Fairmont, W. Va., manager, oil and gas industry sales, Monongahela System, West Penn Power Co. In speaking of its application in repressuring, Mr. Brubaker said, "Some thought is being given to the economies of locating small motor-driven compressors at each input well, rather than one large compressor serving several input wells as it is then possible to control accurately the volume and pressure of the gas at each input well by remote or automatic control."

Annual Banquet

Addressing the annual banquet, at which Sam W. Meals, president of Carnegie Natural Gas Co., Pittsburgh, Pa., was toastmaster, Dr. George W. Dyer, of Vanderbilt University, Nashville, Tenn., declared no system of industry can survive unless it is given unusual protection—not unusual regulation, as he discussed the theme brought before the convention by Mr. Dougherty earlier in the day. An outspoken critic of the New Deal, Dr. Dyer, compared the current governmental policies with the government sponsored mercantilism of Eighteenth Century Europe and said that both were, and are, miserable failures, . . . "I don't know of a more stupid policy of government than to discourage profits if they are honestly and fairly made."

"Any democracy that depends on the crowd is going to perdition," Dr. Dyer said, adding that no democracy can succeed unless the strong men of the business take the responsibility of leading the fight for better conditions. "The reason why conditions exist as they do now," he declared, "is because men like you have not shouldered the political responsibility that you should. In all previous depressions in this country, the federal government has confined itself to its constitutional functions and put the responsibility on business leadership to come out of the depressions," he said, concluding with the declaration, "and business leadership has never failed."

The latest development in the use of acid for increasing production was described by H. W. Ross, assistant sales manager, Dowell, Inc., Duncan, Okla., as sustained action acid, which, because of its slower rate of reaction, is believed to reach further from the well bore.

West Virginia History

An interesting historical sketch of the oil and natural gas industry in West Virginia was presented by Fred O. Blue of Charleston, who pointed out that natural gas was known in West Virginia as early as 1775 and was produced from salt wells in the vicinity of Charleston in 1815. The first oil boom in West Virginia was in 1860, he said, but the first of really great importance was in 1890 when a large producer was drilled near Mannington. These wells were accompanied by a large flow of gas, he continued, which was regarded as a nuisance and a misfortune by the operator. It was the practice then, he said, to pipe this gas to a point some distance from the well where it was ignited and allowed to burn. In fact, he said, the first large gas well drilled in the state was allowed to blow open for a year since the drillers found it impossible to shut in.

Advantages of high-pressure, welded lines were discussed by John A. Clark, engineer, Hope Natural Gas Co., Charleston, who described the experiences encountered and practices employed by that company in the operation of its 95-mile line from the Copenhaver-Oriskany field to Hastings station. This line is constructed of 12-inch inside diameter seamless steel pipe, solid to accommodate high pressure and entirely without expansion joints which were deemed unnecessary in view of the many bends averaging 63 per mile. The ditch was 6 inches shallower but 6 inches wider than for a coupled line to allow for bending the pipe first from one side and then from the other to allow for expansion. There are no drips in the entire length of the line and but three dividing gates.

With gas temperatures as low as 30° F. it was necessary to effect complete drying, Mr. Clark said, and a plant was installed by which the gas was washed with calcium chloride brine chilled by ammonia refrigeration. Absorption of water vapor by the brine reduces the water content so that there is no condensation above 20° F.

The fact that the high-pressure line will exceed expected capacity from the standard formula has resulted so that the line, designed to pass 63,000,000 feet per day with 1,000 pounds pressure at Cornwell and 326 pounds at Hastings, actually will pass 75,000,000 feet, the capacity of a conventional 20-inch line, Mr. Hastings said. Average cost of 20-inch line in this country, he said, is $24,000 per mile and 12-inch, $15,000, so that in a 100-mile line, the total saving approximates $1,000,000. "In conclusion," he said, "I feel that a line can be built operating at around 1,500 pounds, and powered with newly developed high-speed engines at a saving of $7,000 to $9,000 per mile and $30 to $40 per installed horsepower, with no appreciable increase in operating costs. This, I believe, should materially extend the economic range through which gas can be transported and possibly open up new markets for the industry."

The possibility of using a combination rig, with cable tools to start an operation and again in the chert, as an answer to the problem of testing deeper formations in the Appalachian region was advanced by J. French Robinson, president, Peoples Natural Gas Co., Pittsburgh, in a thorough analysis of his company's experience with a rotary rig drilling a wildcat in Westmoreland County, southwestern Pennsylvania. His paper will be published in The Oil and Gas Journal August 11.

Mr. Robinson's paper concluded the technical sessions of the convention. During the business session, Harry A. Wallace, Jr., of United Fuel Gas Co., Charleston, W. Va., was elected president to succeed Dan S. Keenan, vice president of Carnegie Natural Gas Co. of Pittsburgh. Other officers elected are W. P. Kerwood, Jr., St. Mary's, W. Va., vice president, and Edwin Robinson, Fairmont, W. Va., secretary-treasurer, who, in arranging details for the 1938 convention, was largely responsible for the finest and best attended meeting in the history of the association. Directors elected are: One year, W. J. Hightower, Charleston; H. L. Bennett, Wheeling; Scott C. Lowe, Fairmont; George Ward, Parkersburg; two years, Wallace B. Gribble, Clarksburg; E. F. Daubenspeck, Parkersburg; George L. Hinerman, Weston; Hugh Burdette, Charleston; three years, Rex P. Milliken, Mannington; O. W. Van Petten, Charleston; George W. Keller, Huntington, and John P. Flynn, Sistersville.

Justice Department Challenges Judge P. T. Stone's Rulings

WASHINGTON, D. C., Aug. 2.—The Department of Justice has entered a motion to rescind and expunge that part of Judge Stone's ruling, at Madison, Wis., setting aside the jury verdict and making a finding for one group of defendants in the tankcar gasoline case. This motion will be argued before Judge Stone in Madison August 4, on the ground that federal procedure does not permit a judge to set aside a jury verdict.

If the motion is not granted, the department could, and likely will, ask the circuit court to mandamus Judge Stone to grant it. The government does not have the right to appeal from that part of the ruling ordering a new trial to certain defendants, but has not set date for retrial.

The jobber contract case is still set for trial September 26 but the probability is it will be postponed until much later. The new grand jury investigation is postponed indefinitely but no plans have been made to shift it to another jurisdiction.

The department has been under some pressure to complete its long-pending West Coast and East Coast oil investigations. It has recently started a number of other big antitrust cases, such as the Ethyl Gasoline, aluminum, Chicago milk, motion picture, and medical association cases, and in addition is very much involved in preliminary work of the monopoly investigation. It is understood here that Judge Stone has no desire to try a new major oil case since he is already behind in his docket, and if the department decides to go ahead with its new grand jury investigation it may shift the proceedings to another jurisdiction. But with its hands so full with other matters, it would not be surprising to see the department quietly put the new case back in the files for future reference.

World Automotive Engineering Congress Next Year

Praising the plan of the Society of Automotive Engineers for a World Automotive Engineering Congress, May 22 to June 8, 1939, in New York, Indianapolis, Detroit and San Francisco, Henry Ford has accepted the honorary chairmanship of the advisory board of world automotive leaders.

Opening for a five-day technical session and dinner in New York on May 22, 1939, American and overseas members will have an opportunity to see the New York World's Fair. The congress will adjourn to Indianapolis to see the annual 500-mile sweepstakes on May 30, and will be entertained by the Indiana section of the society at a dinner. At Detroit they will visit automotive factories and be given a dinner by the Detroit section. The San Francisco three-day technical sessions will open June 6 with an opportunity to see the Golden Gate Exposition.

Obituaries

RUBEN J. DELONG, 70, a pioneer driller and oil producer, died at Cleveland, Okla., August 1.

J. V. BRASHEAR, 30, Iowa Park, Tex., was killed in a K.M.A. field accident last week.

A. A. ASHWORTH, 71, well known to many in the Mid-Continent, died recently. His first contact with the oil industry was in 1910, when he went to Baku in connection with a water-supply scheme and the Maikop pipe line. From 1912 to 1920 he was general manager of Kansas-Oklahoma Oil & Refining Co. and Alluwe Oil Co., and in the latter year became a partner in A. Beeby Thompson and partners. In this capacity he specialized in refinery work and supervised construction in several countries. He was particularly interested in high-vacuum distillation and pipe stills, on which he carried out considerable research.

STEPHEN C. HUDSON, 66, retired employe of Standard Oil Co. of California, died July 25 at his home in Bakersfield where he had been a resident for 29 years.

PATRICK J. O'DONNELL, 57, contractor and oil producer of Abilene, Tex., died suddenly of a heart attack July 21 at Genesee, Pa., where he and his family were spending a vacation at his boyhood home. He had been connected with the oil industry for 30 years. For many years he was with Standard Oil Co., making trips to Rumania and India in the interests of that company.

FRANCIS M. BOOCKS, 81, for 60 years a producer in the Bradford field, died in Bradford July 25 after a two weeks illness. Mr. Boocks resided in Duke Center in the Bradford field and made his home on his own farm in Oil Valley, which he had drilled and developed for oil. It was in the most prolific part of the repressured area but no offer however large would induce him to sell it.

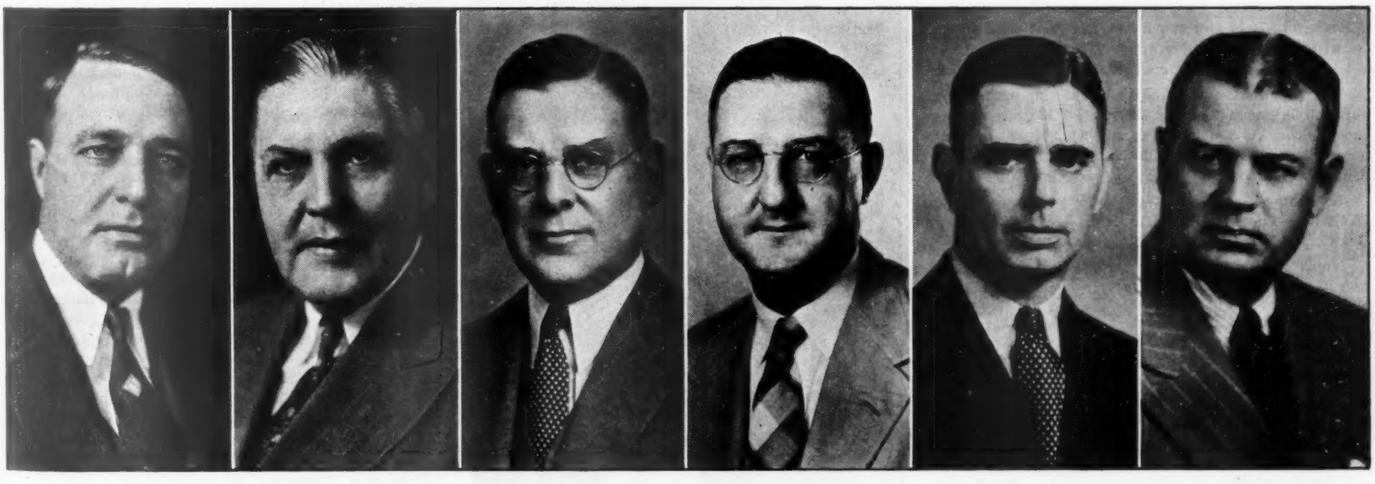
Muskogee Refinery Strike Settled by Compromise

Warren Woods, national labor relations board attorney, announced settlement of a strike at the Pure Oil Co. refinery at Muskogee, Okla., had been effected through a compromise agreement between the company and the oil workers' international union.

Magnetic Storm

Tucson, Ariz., observatory for the U. S. Coast and Geodetic Survey reports a moderate magnetic storm began at 10 p.m. July 29 and ended at 10 p.m. July 30 central standard time.

Personnel Changes in the Frick-Reid Supply Corporation



J. L. SHAKELY *ROBERT McCOY, JR.* *W. M. PATTERSON* *W. H. WEIS* *H. H. WILSON* *R. T. FRICK*

Frick-Reid Supply Corp., the oil country subsidiary of the Jones & Laughlin Steel Corp., recently announced the removal of its executive offices from Pittsburgh, Pa., to Tulsa, and also advised of several changes in executive personnel.

J. L. Shakely, who was vice president in charge of the western division of the corporation for the past several years, now heads the organization as president and will maintain headquarters in Tulsa.

Robert McCoy, Jr., formerly sales manager of the western division, has been made vice president and will also be headquartered at Tulsa.

William M. Patterson retires from the presidency to become vice president in charge of the eastern division with headquarters at Pittsburgh, Pa.

W. H. Weis, formerly auditor, has been made secretary and treasurer and has been moved from Pittsburgh to Tulsa.

H. H. Wilson, former assistant sales manager in the western division, has been promoted to sales manager and will have his headquarters at Tulsa also.

R. T. Frick has been made district sales manager for western Pennsylvania, West Virginia and Ohio.

Moving of the executive offices to Tulsa will result in certain operating economies and will bring the operating heads closer to the major areas being served by the corporation in the southwestern oil fields. It also permits complete utilization of the recently enlarged Frick-Reid office building, one of Tulsa's most modern air conditioned business structures.

Natural Gas News

Ask Merger of Columbia and Peoples Natural Gas Co.

HARRISBURG, Pa.—The Public Utility Commission has been asked to approve the merger of Columbia Natural Gas Co. and Peoples Natural Gas Co., both of Pittsburgh. The combination would involve undepreciated fixed capital of $41,596,659 and 147,888 customers in western Pennsylvania.

The application stated that the merger would result in increased efficiency and operating economy, and eliminate an unnecessary subsidiary. No date was set for a hearing.

Columbia serves 23,584 customers in Armstrong, Allegheny, Westmoreland, Butler and Indiana counties, and showed undepreciated fixed capital of $12,673,295 in its 1937 report.

Peoples company serves 124,304 customers in Westmoreland, Greene, Beaver, Blair, Allegheny, Armstrong, Washington, Cambria, Lawrence and Fayette counties, and lists its undepreciated fixed capital at $28,923,364.

Texas Allowable Gas Order For August Is Reduction

AUSTIN, Tex.—Reductions in daily allowable production of sweet and sour natural gas were stipulated for Texas in the August order by the railroad commission.

The outlet of sweet gas from the Rodessa field was put at 54,317,000 feet daily, a decrease of 1,425,000 from July. Production from the Hill sand was increased 10,037,000. Reductions of 54,052,000 and 158,000 were ordered for the Dees and Gloyd sands.

The East Panhandle field's allowable was set at 108,603,000 feet daily, a reduction of 3,925,000, and the sour gas allowable for the West Panhandle field was placed at 641,718,000, a decrease of 9,939,000.

Lone Star Gas Corp. in Financing Operation

WASHINGTON, D. C.—Lone Star Gas Corp. of Wilmington, Del., and subsidiaries have applied to the securities commission for approval of certain steps in a $46,670,955 financing operation.

The commission was notified that the parent corporation intended to issue $20,000,000 15-year 3½ per cent sinking fund debentures and $11,300,000 of bank notes. Subsidiaries are to issue 4½ per cent income demand notes in the following amounts:

Lone Star Gas Co. $5,100,000; Texas Cities Gas Co., $5,438,380; Council Bluffs Gas Co., $1,209,725; Dallas Gas Co., $1,942,850; County Gas Co., $1,680,000.

Notes of the subsidiaries are payable to the Lone Star Gas Corp. Proceeds, it was announced, will enable Lone Star Gas Corp. to redeem all preferred stock, having a par value of $7,975,500, and retire bank loans of $8,400,000.

A.G.E.M. Supplying Members With Gas Distributing List

The Association of Gas Appliance and Equipment Manufacturers is now supplying its members with a complete, yet simplified, listing of all gas distributing companies operating in the United States. This compilation, classified according to states, includes the names of all the companies supplying gas service, their principal offices, the total number of customers served by each, the kind of gas they supply, and the heating value of their fuel.

An introductory classification gives the total number of gas companies operating in each of the states, and their total number of gas customers.

A new practical feature included in this tabulation by the association's statistical department is the providing of a blank column on each page of listed companies for the use of the manufacturer. Thus, if a manufacturer, for example, desires to list the number of appliances sold to various gas companies within a certain period, he will find adequate space for that purpose.

Two supplements are also being distributed. The first supplement lists the gas distributing companies operating in the Dominion of Canada. The second gives the names of the holding and managing companies of gas properties and operating subsidiary gas companies in the United States, their principal offices, and the number of gas customers served by each of their operating companies.

Glencoe Gas System

GLENCOE, Ontario.—Union Gas Co. of Canada, Ltd., is installing a gas distributing system in the village of Glencoe. The system will be served from the main Dawn-London transmission line, which passes close to the village. Gas will be delivered early this fall.

Pipe Line Activity

Line From Woodlawn Field To Tank Farm at Gillis

LAKE CHARLES, La.—Union Sulphur Co. has let contract to D. A. Swink of Shreveport, La., to lay 12½ miles of 6-inch welded pipe line from the former's Woodlawn field, Jefferson Davis Parish, Coastal Louisiana, to the company's tank farm and loading docks at Gillis, on the Calcasieu River. Union Sulphur has one well and one distillate producer in the field so far.

G. J. Neuner Succeeds B. R. Bay As Panhandle Eastern Executive

G. J. Neuner, of Kansas City, Mo., vice president and counsel of Panhandle Eastern Pipe Line Co., was elected to the position of vice president in charge of operations by the board of directors at a meeting on July 20. Mr. Neuner succeeds Burt R. Bay, who recently resigned to accept a position as director and

G. J. NEUNER

executive vice president of Northern Natural Gas Co. He assumed his new duties on August 1.

Mr. Neuner has been actively identified with the oil and gas industry for more than 20 years. From 1916 until 1926, he was associated in various capacities with subsidiaries of Cities Service Co. at Bartlesville, Okla. In 1926 he joined the organization of Barnsdall Oil Co., of Tulsa, serving in the capacity of assistant chief counsel. He has been with Panhandle Eastern Pipe Line Co. as counsel since early in 1931.

It was while "Jerry," as his acquaintances know him, was employed as assistant secretary of the Empire Gas & Fuel group of companies in the early twenties that he took up the study of law under the guidance of the late Judge H. O. Caster. He was admitted to the bar of the supreme court of Oklahoma in 1922 and subsequently to the supreme court of Missouri, the Supreme Court of the United States, and various intermediate federal courts. In recent years his duties have been both legal and executive in nature.

Michigan Wants More Gas From Texas and Kansas

SAGINAW, Mich.—Under the leadership of Charles S. Porritt, a member of the Michigan Public Utilities Commission, a cooperative plan is being worked out to make natural gas available to additional Michigan cities and to increase the "take" of natural gas from Michigan fields.

The plan involves construction of a $5,000,000 loop pipe line which would bring gas from the fields of Texas and Kansas into the Pontiac area, where artificial gas is used. Natural gas would be available to Mount Clemens, Royal Oak, Birmingham, most of Oakland County and a portion of Macomb County.

The plan contemplates, also, the piping of Michigan natural gas into the important Flint industrial area. Discussing the situation, Mr. Porritt said: "The output of Michigan gas wells is approximately 7,000,000,000 feet annually, but the committee estimates that with the addition of the available market (Saginaw, Bay City, Grand Rapids, Lansing and about 50 smaller communities now are using natural gas), the total consumption in the lower peninsula of Michigan, exclusive of Detroit, will rise to 22,000,000,000 feet a year. Of this amount approximately 14,000,000,000 feet a year would be obtained from the Texas-Kansas fields, and when the demands of cities now served by Michigan gas increased, the difference could be made up from the outstate source."

Michigan Director Warns Against Stream Pollution

SAGINAW, Mich.—Oil pipe line companies operating in Michigan have been given a sharp warning by State Conservation Director P. J. Hoffmaster against permitting breaks in pipe lines to allow oil to escape into streams. His warning asserts that the oil damages the streams for livestock and domestic drinking purposes and that it also kills fish life in the streams.

Mr. Hoffmaster, saying pipe line breaks are more or less certain to occur, warns that his department expects immediate action to repair breaks.

Refinery Expansion

Adjourn Gray Process Case Against Danciger Oil

AMARILLO, Tex., Aug. 1.—Since June 20 testimony has been presented in the suit brought by the Gray Processes Corp. against the Danciger Oil & Refining Co. regarding the latter's use of a clay treating process at its Pampa, Tex., refinery. For the time, however, the case has been suspended and hearings will be resumed September 19.

Plan to Recondition Ardmore, Okla., Plant

The 4,000-bbl. skimming plant at Ardmore, Okla., built and operated originally by the Cameron Refining Co. and later by the Wirt Franklin Petroleum Corp., passed into the hands of William C. Berry and Dr. Sidney Born when Judge Edgar Vaught on last Friday approved their purchase of the properties from Frank Porter, receiver.

The refinery equipment has not been in use for three years and will require considerable reconditioning before it may be placed in service. This will begin at once and pending the completion of negotiations for local crude, the plant may be enlarged and cracking facilities added.

Union Starts Work on New Solvent Extraction Unit

Work has been started on a new phenol-solvent lubricating-oil plant at Union Oil Co.'s Oleum refinery on San Francisco Bay. The plant will cost in the neighborhood of $500,000, and is being constructed under contract by Bechtel-McCone-Parsons Corp.

Universal Oil-Globe Oil Suit Is Ordered Tried by Federal Court

CHICAGO, July 27.—Today Globe Oil & Refining Co. was denied dismissal of the suit brought against it by the Universal Oil Products Co. in which the charge was made that Globe infringed two cracking patents held by Universal. Globe charged Universal with entering court with "unclean hands."

Judge William H. Holly, who denied the dismissal motion, explained that the Winkler-Koch cracking operations in the Lamont, Ill., refinery of the Globe served as the basis for the suit.

The patents involved are No. 1,392,629, issued to Carbon P. Dubbs, and known as the clean circulation patent, and No. 1,537,593 issued to Gustav Egloff and known as the two-coil selective cracking patent.

In deciding the case, Judge Holly, among other things, said: "I have reached the conclusion that the evidence does not sustain the defense of unclean hands.

"First, as to Mr. Behimer: He was within his rights in leaving the employ of the Texas Co. and accepting employment with the Universal; and Universal was within its rights in employing him.

"I was impressed with Mr. Behimer's apparent honesty on the witness stand. . . . There is no evidence that Universal asked him or requested him or endeavored to get him to make a false statement."

Sinclair to Rebuild Wellsville Refinery Destroyed by Fire

WELLSVILLE, N. Y., July 30.—Sinclair Refining Co. will rebuild the lubricating oil plant and auxiliary equipment destroyed by fire two weeks ago. The greater part of the plant was fire-swept but in the past two weeks various units have been reconditioned and placed on a routine operating basis.

For a short period after the fire, local producers curtailed their crude oil production to a minimum. The Sinclair refinery was the most important outlet for the oil. With the resumption of operations in the refinery the field conditions have improved and after the plant is reconditioned, the original schedule of refinery operations will probably be resumed.

Pressure tankage is used at many marketing terminals and a typical example is the spheroid at Richmond, Va., built for Standard Oil Co. of New Jersey shown above

Northern Storage Stations To Be Built by Imperial Oil

FORT McMURRAY, Alberta.—Imperial Oil, Ltd., is this year constructing 21 additional storage tanks to serve the northwest territories. S. R. Stevens, divisional manager, and Capt. T. M. Reid, head of the aviation department, of the Imperial company left recently for an inspection tour of the company's northern system. The north country is largely supplied with petroleum products refined in the field from the company's wells at Fort Norman, on the Mackenzie River.

Cities Service Acquires Interest in Great Lakes

Although formal signing of the contract between Cities Service Oil Co. and the Great Lakes Pipe Line Co. awaits completion, all negotiations for the acquisition of a stock interest in the gasoline pipe line system has been completed to the point where actual deliveries of gasoline are being made from the Ponca City refinery of Cities Service.

The physical connection between the refinery and pipe line system has been completed and the Ponca City refinery is expected to take advantage of the Great Lakes facilities in reaching a large share of northern markets west of the Mississippi River.

As a result of including the Cities Service in the group of companies participating in the Great Lakes system, practically all of the major plants in Oklahoma are connected to a major gasoline pipe line. Other members participating in the Great Lakes are the Continental Oil Co., Barnsdall Oil Co., Skelly Oil Co., Phillips Petroleum Co., Mid-Continent Petroleum Corp., Pure Oil Co., Sinclair Refining Co., and Texas Co. Other important gasoline lines include those of the Phillips Pipe Line Co., Cimarron Valley Pipe Line Co., and Socony-Vacuum (White Eagle division). Only the Ponca City refinery of the Cities Service group will be able to ship gasoline through the Great Lakes lines as no physical connection has been made to the Cities Service refinery at Okmulgee, Okla. The Ponca City plant has a daily crude capacity of 12,000 bbls.

An arrangement has also been made by Cities Service in conjunction with the Pure Oil Co. whereby gasoline manufactured at the Cities Service East Chicago refinery may be transported by lake tanker to Superior, Wis., from which terminal it will be distributed throughout the Dakotas and northern Minnesota.

Vote Favors British American Building New Refinery

CALGARY, Alberta.—Following a vote of 4,358 to 877 in favor of a fixed assessment, steps are being taken toward the early construction of a $1,350,000 modern refinery plant by British American Oil Co. at East Calgary. Construction, employing around 400 men for six months, will be commenced as soon as formal transfer of the 90-acre site purchased from the city is completed.

McColl-Frontenac Moves Office

MONTREAL, Quebec. — Shareholders of McColl-Frontenac Oil Co. have sanctioned the transfer of the company's head office from Montreal to Toronto. Executive direction of the company will continue from the Montreal offices.

Calgary Refinery Damaged

CALGARY, Alberta.—Damage amounting to $2,500 to stills and boiler plant was done recently by two successive fires at the Lion Oils refinery in Manchester subdivision.

Natural Gasoline

Shell to Enlarge Plant In Southern Oklahoma

The Shell Petroleum Corp. is perfecting plans to remodel and enlarge its natural gasoline plant at Healdton, in Carter County, Oklahoma. It will be converted from a compression process to the absorption type with the capacity increased from 2,500 gallons to 8,000 gallons per day.

Liquefied Gas Project For Canadian Field

MEDICINE HAT, Alberta.—C. L. Hatch and associates of Medicine Hat are studying the possibilities of utilizing natural gas from fields on the Alberta-Saskatchewan boundary for the production of liquefied gas. Suitable gas has been found in Medicine Hat, in the vicinity of Bow Island and Foremost, Alberta, and in the Twin Provinces well in Saskatchewan. Liquefied gas is already being used to a small extent in Toronto and other eastern Canadian cities, and it is believed that isolated prairie communities and farms and northern mining camps would offer good markets for the product.

Decline in Peru Production; Increase in Colombia

During June alone, International Petroleum Co. produced 1,081,857 bbls. from Peruvian properties, a decline of 34,202 bbls. from May and 135,171 bbls. from the total for June, 1937.

Tropical Oil Co., a subsidiary of International and the only commercial producing company so far in Colombia, produced 1,810,049 bbls. of crude oil in June, an increase of 127,947 bbls. over the 1,682,102 bbls. produced in June, 1937.

INTERNATIONAL NEWS

Germany Increasing Output In Hanover and Bremen

Germany's crude oil production is reflecting the result of the government's zeal for petroleum self-sufficiency, although the country has much progress to attain before its goal is reached. During the first four months of the year total petroleum production amounted to 1,237,530 bbls. as compared with 1,023,006 bbls. for the same period in 1937, an increase of 214,524 bbls., or approximately 21 per cent. The Hanover fields accounted for 84 per cent during production, as compared with 89 per cent during the first four months of 1937. In the Hanover district, the Nienhagen-Hanigsen field, which produced 896,581 bbls. of crude oil during the first four months of 1938 compared to 751,576 bbls. for the same period last year, was the only one of three areas to register an increase. The Wietze-Steinforde and Eddesse-Oberg fields both declined in the first four months of this year below the production total for the same months in 1937. The three Hanover fields produced a total of 1,036,567 bbls. from January through April this year compared to 905,569 bbls. in 1937.

In addition to the increase registered in the Nienhagen-Hanigsen field, the Bremen district has played an important part in boosting 1938 crude oil output above the 1937 level. Bremen production tapered off slightly in April, declining 10,318 bbls. from the March output, but yield for the month was 53,396 bbls., or approximately 24 per cent over that registered in the same month last year.

Nicaragua Grants Exploration Privilege to Carlos Wassmer

Carlos A. Castro Wassmer has been granted privilege of exploring Nicaragua during a period of three years ending June 7, 1941, for hydrocarbons and their derivatives, including natural gas. The official bulletin "La Gaceta" has published the contract between the Ministry of Public Works and Wassmer reciting the terms of the grant. Exploitation may be undertaken only after the concessionnaire presents evidence of his having spent $25,000 or more in geological investigations.

Mexican Answer Awaited as Dissension Brews in Army

Reply from President Larazo Cardenas of Mexico to Secretary of State Cordell Hull's strongly worded message demanding arbitration of the expropriation dispute was awaited last week to give some hint as to whether the position of 17 United States and British companies has been materially revised. Reports on President Cardenas' reception of the U. S. note which concerned only agricultural lands in the text, were confusing. Some reports said the Mexican president would yield to demands of the United States while others said his stand would not be altered in the reply now being composed.

At a press conference in Mexico City, President Cardenas made the flat declaration that the oil properties would not be returned under any circumstances. The breach between conservative and radical elements in the Mexican government and among President Cardenas' advisors appeared to be widening. Rumors came with increasing frequency last week that the conservative wing in the Mexican army is pressing harder than ever for a show-down with the radical group represented by Lombardo Toledano, leader of the C.T.M. labor organization.

Meanwhile, evidence grew that Japan and the Reich are working close in distribution and transportation of the 10,000,000 bbls. of oil involved in the negotiations between W. R. Davis & Co. of New York and German firms. It was reported from the Pacific Coast that no less than five tankers operated by Japanese lines or under charter to Japanese interests have been ordered to proceed from San Pedro, the port at which they were originally scheduled to take on petroleum cargo, to Balboa.

Confronted with the question of whether Mexico has altered its original declaration that no expropriated oil would be sold to aggressor or fascist nations, President Cardenas said his country is being compelled to sell its oil wherever a market can be found. This was accepted as admission that Japan may be purchasing certain quantities of oil for its own account and that Japanese interests are aiding in delivery of Mexican petroleum to Germany.

Second Well Is Completed In Southwest Hungary

European Gas & Electric Co., an affiliate of Standard Oil Co. of New Jersey, recently completed its second oil well and third test in the Szentadorjan Lispe field in the southwestern part of Hungary. Hungary produced nearly 40,000 bbls. of crude during the first three months of 1938 and 80 per cent of this is derived from the new Szentadorjan Lispe field proven productive of crude oil last November. Production from European Gas & Electric Co. No. 2 Budafaputza has been averaging 376 bbls. per day since its final completion November 25, 1937. The second oil well, No. 3 Budafaputza, is being produced at the same rate.

Negotiations are still pending between the operating company and the government over construction of a refinery for processing crude from the new field. For the past five months the Szentadorjan Lispe field has averaged production of 11,280 bbls. per month. Crude from the new field yields the following products in approximately the accompanying percentages:

	Per cent
Gasoline	21.90
Naphtha	4.10
Kerosene	28.00
Gas oil	14.50
Residual fuel	29.90
Loss	.90

Seven Completions in Barco Concession in 60 Days

During the past 60 days, Colombian Petroleum Co., jointly owned by Texas Co. and Socony-Vacuum Oil Co., Inc., has completed seven producers in the Barco concession in eastern Colombia with aggregate potential production of approximately 14,000 bbls. per day. The company is operating three rigs in each of the two proven districts, Petrolea and Rio de Oro, and one rig is engaged in drilling a wildcat prospect.

Since Colombian Petroleum Co., as now constituted, took over operations on the Barco concession only two or three failures have been registered. The company has speeded its development program in anticipation of the pipe line project completion in the early months of 1939. The shallow Cretaceous producing horizon on the Petrolea structure can be reached in a few days' drilling time. Out of the six completions registered during the past 60 days at Petrolea, the deepest well was completed at 800 feet and the most shallow at 485 feet.

Recent completions at Petrolea covered wells numbered consecutively from 18 to 23, inclusive. No. 18 was completed for 1,200 bbls. per day at 485 feet; No. 19 at 575 feet for 1,600 bbls.; No. 20 at 600 feet for 2,000 bbls.; No. 21 at 550 feet for 4,000 bbls.; No. 22 at 640 feet for 2,800 bbls., and No. 23 at 800 feet for 1,250 bbls. No. 24 Petrolea is drilling around 400 feet, while No. 25 and No. 26 are in the early stages of drilling.

The only recent completion on the Rio de Oro structure was No. 6 at 1,640 feet for initial of 1,200 bbls. per day. No. 7 well is testing below 1,600 feet; No. 8 is drilling at about 500 feet, and spudding is under way on No. 9 Rio de Oro.

On the basis of current completions on the Barco concession it is estimated that Colombian Petroleum Co. has potential output of about 50,000 bbls. per day in reserve. The potential probably will be at least doubled if the current rate of development is maintained until the trunk pipe line system across the Andes to the western coast of Colombia is completed before the middle of 1939.

Iran Oil Production Declines From the Peak in March

Crude oil production from Iran tapered off slightly in April after setting an all-time high figure in the preceding month, but continues to run substantially ahead of 1937.

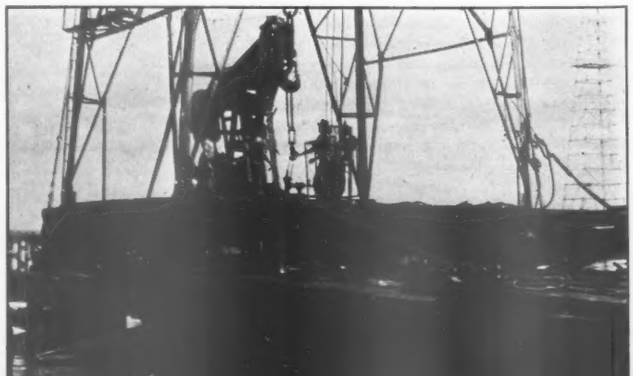
April's production of 923,000 tons, or 6,924,345 bbls., using a conversion factor of 7.515 bbls. per ton, compares with 1,078,393 tons, or 8,104,123 bbls. in March, the month when the record for all time was set.

During the first four months of this year Iran's production totaled 3,605,393 tons, or 27,082,528 bbls., compared with 3,043,000 tons or 22,868,145 bbls. for the same period in 1937.

Exploratory Work in Albania Tripled During the Year

The development program launched by the Azienda Italiana Petroli Albani on an increased scale two years ago is progressing rapidly according to the "La Rivista Italiana del Petrolio."

The six rotary drilling rigs acquired in 1936 have enabled the company to more than triple its exploration activity. The review reports that 102 wells were drilled during 1936 and 1937 involving 76,432 meters of hole, compared to 27,290 meters of hole drilled in the year prior to acquisition of the six new rotary rigs. Since the A.I.P.A. started Albanian operations, 151,737 meters have been drilled.



A cleanout barge servicing a well in Cabimas, Venezuela

WILDCAT DEVELOPMENTS ON COASTAL SALT DOMES

By Neil Williams

HOUSTON, Tex.—Interest in the potentialities of the remaining unproductive known coastal salt domes is being revived following the discovery of oil at Jefferson Island, Iberia Parish, Louisiana. With this, an increasing amount of wildcat development is expected around these domes, some of which have been inactive for many years. Already, new drilling is getting under way on several.

Jefferson Island is one of the oldest known domes on the Gulf Coast. Salt was encountered in tests as early as 1895, and exploration, including drilling of shallow tests over the top of the dome as well as deep tests around the flanks, has been carried on intermittently since. Discovery of oil on this dome strengthens the belief of various Gulf Coast operators that eventually every salt dome will be found productive.

On the Gulf Coast are 10 known salt domes on which no production has been found. Twelve other known domes are not producing, although they have produced small quantities of oil at times.

With the exception of four domes, among the more recent additions and which are deeply seated, all the present non-producing domes are of the shallow, piercement type. On such domes some of the Gulf Coast's most prolific fields have been found. Spindletop, Humble, Jennings, Batson, and West Columbia. Until the past decade, development on the Gulf Coast was centered largely around such domes, which at the time were the only domes definitely known. With the uncovering of numerous fields of other types in more recent years, active exploration has been diverted from the older domes on which no production had been found.

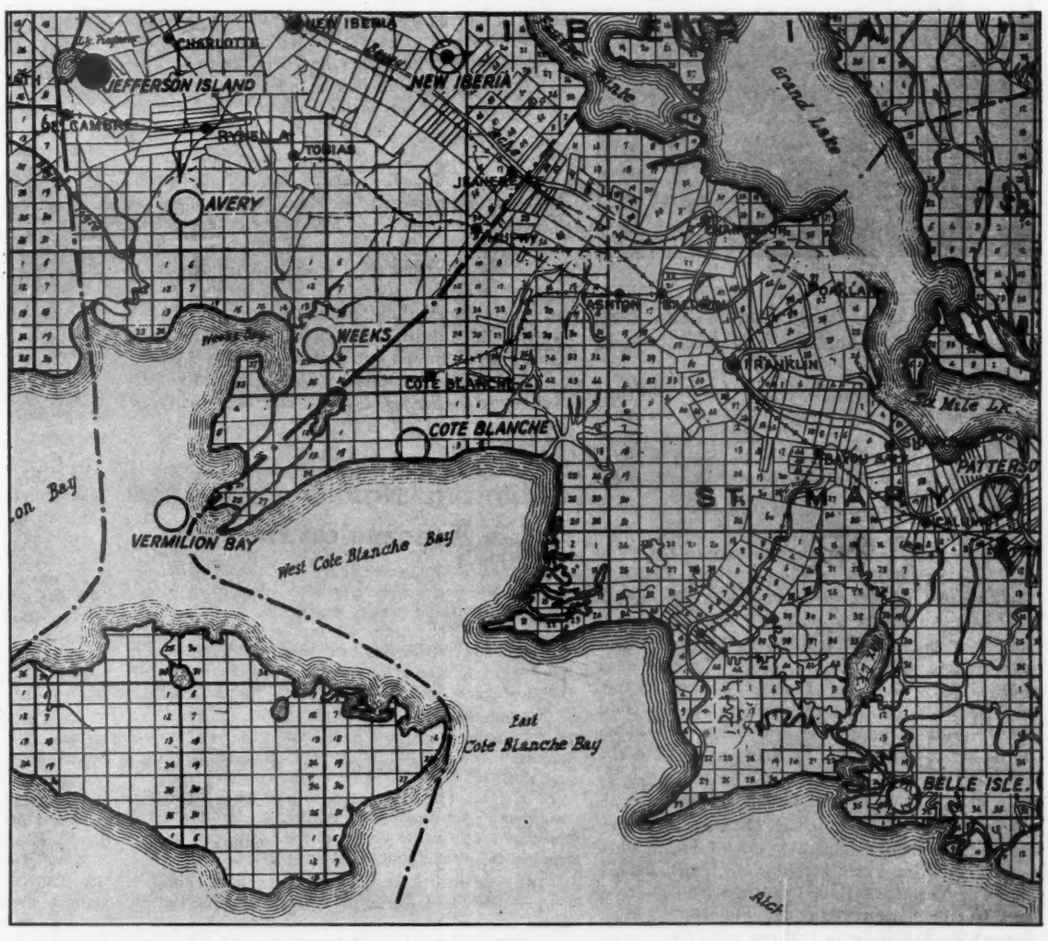
Production at Jefferson Island was established by Texas Co. No. 1 Bayless-Jones, completed the latter part of June flowing initially at the rate of approximately 400 bbls. of pipe line oil daily through a 10/64-inch choke. Since completion, the well, under restricted flow, has maintained a consistent output between 150 and 200 bbls. daily. Production is from an 8,200-foot horizon, in which casing was perforated at 8,170-8,210 feet. The hole had been drilled to 9,031 feet and plugged back. The well is on the north flank of the dome, where within the past three years Jefferson Lake Oil Co. has drilled five deep tests. Several encountered showings which led to the present discovery. Texas Co. already has started drilling its second test, about 700 feet north and a little west of the discovery, on leases acquired from the Jefferson Lake Oil Co. on a working basis. The leases lie in the bed of Lake Peigneur, a state-owned body of water along the north and west sides of the dome.

Jefferson Island is one of the "Five Islands," a group of five old domes, all nonproductive until now, on an almost straight line extending about 45 miles in a northwesterly-southeasterly direction across Iberia and St. Mary parishes. The group includes, in addition to Jefferson Island, the most northwesterly, Avery Island, Weeks Island, Cote Blanche and Belle Isle. Except for Cote Blanche, where salt was not proved until 1921, all have been known since the last century. These domes have always been cited as conspicuous examples of non-productive domes, and have been assumed to offer about the least potentialities.

However, except at Jefferson Island and Avery Island, drilling had been limited to shallow tests on top of the dome many years ago exploring for salt or sulfur. Even at Avery Island only a few flank tests have been drilled, a number of years ago. The Jefferson Island discovery may prove an incentive for drilling on these sister domes. Salt on each is usually shallow, reaching almost to the surface, and should production be found it would have to be in deeper flank sand development.

Drilling is under way on 12 of the present non-producing domes, including eight on which no production has been found so far. Indications point to starting of development on a number of additional unproductive domes within the next several months.

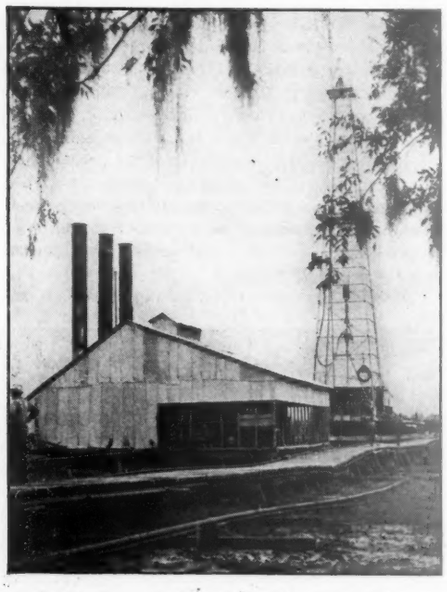
Among the nonproductive domes on which new



Jefferson Island salt dome, Iberia Parish, Coastal Louisiana (upper left), one of the oldest known domes on the Gulf Coast, where first production recently was opened. It is one of the "Five Islands," a group of domes, including Avery Island, Weeks Island, Cote Blanche and Belle Isle, none yet productive

development recently has been started is Davis Hill, northern Liberty County, where Hargrove and associates are drilling a deep test on the northwest flank, the first drilling on this dome since 1932. The dome has been known since 1905, and although more than 45 tests have been drilled on and around it since no important showing has been encountered. That the dome is not considered condemned is indicated by the fact that acreage around the dome has been tightly held. Most of it is owned by major companies. The deepest test went to only 5,175 feet.

Stratton Ridge, Brazoria County, is another old dome on which exploration is being revived. Sterling Oil & Refining Co. has a deep test under way that was started since the Jefferson Island discovery. This dome was discovered in 1913. Exploration has been carried on intermittently by different companies, and more than 80 tests have been drilled. Most of these have been shallow. On this dome, several shallow sand wells drilled in



Texas No. 1 State-Lake Peigneur, Jefferson Island salt dome, Iberia Parish, Louisiana, where oil production recently was opened

1922 found small production but it failed to hold up. In 1933, a well drilled by Rycade Oil Corp. about a mile east of the old shallow wells, was completed in a sand at 4,500 feet, but went to water the first day. The last attempt was early in 1937.

Material is being moved in for another deep test on the old Bryan Mound dome at Freeport, to be drilled by J. S. Fabriguze and associates on Freeport Sulphur Co. land, on the east flank. Contract has been let to Henry DeArman for drilling to 7,500 feet. Texas Co. is drilling a deep test on the northwest side. Heaving shale has given considerable trouble. This dome has been known since 1901, shortly after the discovery of Spindletop. Hundreds of shallow cap rock tests have been drilled around the top of the dome, on which sulfur has been produced by Freeport Sulphur Co. for many years. Upwards of 25 flank sand tests have been drilled. No production has been found.

Among these domes which have given particular indications of establishing new fields, in addition to those on which some production has been found, is Vermilion Bay, Iberia Parish, where a deep test drilled by Texas Co. recently blew out under high gas pressure and ran wild for several weeks. This is the eighth test drilled on the dome, discovered by geophysical exploration in 1927. The first test, abandoned in February, 1928, proved the salt. The dome lies largely in Vermilion Bay, where all the drilling has taken place.

At Big Hill, Jefferson County, Stanolind Oil & Gas Co. has been attempting to develop production along the east flank. Wells have encountered important oil and gas showings but due to heaving shale and high pressures, efforts to complete wells have been unsuccessful. One well drilled last year produced a small quantity of high gravity oil for a short time. This dome has been known since 1901, and exploration has been carried on at intervals since by various operators. Some small production was developed in 1923, but it failed to hold up.

McFaddin Beach, one of the unproductive domes, was discovered last May. It is in the Gulf of Mexico off the coast of Jefferson County, Texas, where Humble Oil & Refining Co. No. 1 State topped salt at 2,603 feet. A second test is being started. A deep test was drilled on the beach several years ago without finding dome material.

Including the present nonproducing domes, there are 100 known salt domes on the Gulf Coast. Of these, 53 are in Louisiana and 47 in Texas. Nonproducing domes are listed in an accompanying tabulation.

Nonproducing Salt Domes on Gulf Coast

TEXAS

Dome—	County—	Year salt proved	Year oil disc.	Total tests drld.	Total oil wells	Total production	Total oil produced	No. tests drilling
Big Hill	Jefferson	1901	1923	53	3	18,000	1923-24	1
Big Hill	Matagorda	1901	1902	127	75	203,589	1904-07	0
Bryan Mound	Brazoria	1901	....	20	...	.....	.....	1
Clemons	Brazoria	1926	....	15	...	.....	.....	0
Davis Hill	Liberty	1905	....	45	...	.....	.....	1
Hawkinsville	Matagorda	1925	1936	21	1	2,900	1936	0
Hockley	Harris	1906	1933	76	1	16,930	1933-35	0
Hoskins	Brazoria	1904	1904	45	6	31,755	1904-07	0
Long Point	Fort Bend	1928	1928	71	2	Small	1928	0
McFaddin Beach	Jefferson	1938	....	2	0	.....	.....	1
Moss Bluff	Liberty	1930	1930	60	6	205,825	1930-35	0
Palangana	Duval	1901	1928	.	2	4,000	Irregular	1
Stratton Ridge	Brazoria	1913	1922	82	4	29,895	1922-23 1923	1

LOUISIANA

Dome—	Parish—	Year salt proved	Year oil disc.	Total tests drlg.	Total oil wells	Total production	Total oil produced	No. tests drilling
Avery Island	Iberia	1862	....	3	...	.....	.....	0
Bay Junop	Terrebonne	1930	....	9	...	.....	.....	0
Bayou Bouillon	St. Martin	1928	1928	58	10	439,837	*1928-31	0
Bayou Des Glaise	Iberville	1929	....	6	...	.....	.....	0
Belle Isle	St. Mary	1896	....	32	...	.....	.....	0
Calcasieu Lake	Cameron	1928	....	9	...	.....	.....	0
Chacahoula	Lafourche	1927	....	38	...	.....	.....	1
Cote Blanche	St. Mary	1921	....	64	...	.....	.....	0
Henderson†	St. Martin	1937	....	6	...	.....	.....	1
Hester†	St. James	1936	....	2	...	.....	.....	2
Lake Mongoulol†	St. Martin	1936	....	3	...	.....	.....	1
Marchland†	Lafourche	1936	....	2	...	.....	.....	0
Napoleonville	Assumption	1926	....	16	...	.....	.....	0
Pine Prairie	Evangeline	1909	1912	35	4	20,000	1912	0
Potash	Plaquemines	1937	1938	30	1	Small	1938	1
Section 28	St. Martin	1917	....	14	...	.....	.....	0
Vermilion Bay	Iberia	1928	....	8	...	.....	.....	1
Weeks Island	Iberia	1897	....	5	...	.....	.....	0

*Production 1936-37, 12,373 bbls.; one well completed June 5, 1936. Now dead.
†Deeply seated, nonpiercement domes.

California Names Committee for Venezuelan Hearing

LOS ANGELES, Calif., July 30.—Plans to oppose the pending reciprocal trade agreement with Venezuela, which would permit importation into the United States of Venezuelan oil free of the present 21 cents per barrel excise tax, were completed at a meeting of interested oil operators at the offices of Oil Producers Agency of California.

A committee composed of Ed Pauley, Petrol Corp.; D. T. Staples, Pacific Western Oil Co.; Tom Casey, Barnsdall Oil Co.; W. H. Geis, Arrowhead Oil Co.; and Rush M. Blodget, Oil Producers Agency, will prepare a brief for submission to the Committee for Reciprocity Information by August 6, deadline date, and may take further action at the open hearings beginning in Washington on August 15.

The brief will point out the results to be expected if Venezuelan oil is permitted to come into the United States without the nominal duty of 21 cents now imposed. While producers of heavy oil, and their employes, will be most directly affected, it was pointed out that the whole California oil industry can expect decidedly unfavorable marketing reactions with the Atlantic seaboard completely eliminated as a potential customer for California oil. The unsettlement of the whole market, it was said, would result from the fact that residual fuel oil, disposal of which has always been a problem for California marketers and refiners, would be thrown into direct competition with duty-free Venezuelan oil.

"Handbook of Petroleum Accounting"

The oil industry has many ramifications and cost accounting is an important factor in the management of each branch of the industry because it gives an over-all picture of results attained. Attempts have been made to standardize accounting methods for the various departments but without much real success. Executives and accountants are bound to differ in opinions with others in like capacities so reports and balance sheets may vary through relatively wide ranges. However, the same basic analyses of operations are made by most of the major oil companies, with some variations in form. These companies have accounting systems worked out to suit their particular needs, and as there are only a limited number of facts to be disclosed it is of little moment how they are reached so long as the final results are much the same.

With these general facts in mind, the new book, "Handbook of Petroleum Accounting," by Raymond Walter McKee, C. P. A., and co-author of "Accounting for the Petroleum Industry," will be found of particular interest to many in the petroleum industry, for it is just off the press and contains a vast fund of pertinent data on accounting methods for each branch of the industry.

The book contains 500 pages and is divided into eight parts. The first part deals with General Departments and Comments; Part 2, with Production Division; Part 3, Pipe Line Division; Part 4, Refining Division; Part 5, Gas and Natural (Casinghead) Gasoline Division; Part 6, Marketing Division; Part 7, Marine Division, and Part 8, Classification of Accounts. Each chapter is well illustrated with sample cards and work sheets and explanations of their use and application to the problems of the particular department for which they have been designed.

"Handbook of Petroleum Accounting" may be purchased through the Book Department of The Oil and Gas Journal at the established retail price of $5.00, express prepaid (postage extra outside the United States), and a copy will be forwarded promptly upon receipt of check or money order for that sum. Where the order is not accompanied by payment or a company purchase order, the book will be sent express c.o.d. to avoid delay.

Service on New Fields

NEWHALL-POTRERO FIELD, CALIFORNIA

Compiled by The Oil and Gas Journal, July 30, 1938

Approved name:

Newhall-Potrero field. There has been some objection to this name because an older field of the Los Angeles Basin is known as the Potrero field. However, the name "Newhall" in itself would be confusing because some writers have applied the term "Newhall field" to a group of nine small producing areas to the south and to the east of the new discovery. The group includes both the fields of the Newhall district and those of the Pico anticline district, though these two districts are quite unrelated geologically. The Newhall-Potrero field may be properly classified with the Pico anticline fields.

Geographic location:

The Newhall-Potrero field is situated 6 miles west of the townsite of Newhall in Los Angeles County, California, and approximately 40 miles north of the Los Angeles metropolitan center. Development has been confined to section 26-4n-17w.

Type of country:

The producing area lies in a meadow broken by some gently rolling hills and enclosed by a very rugged rim rock. The area is therefore a saucer-like valley. Surrounding terrain is typically mountainous. The course of the Santa Clara River lies 2 miles north of the wells. Average elevation on the enclosed meadow is 1,200 feet above sea level.

History of development:

Barnsdall Oil Co. commenced drilling the discovery well, No. 1 Rancho San Francisco, on August 10, 1936. It was located in the eastern central portion of a 4,000-acre block leased by Barnsdall from Newhall Land & Farming Co. First production test was made on March 12, 1937, at a depth of 6,422 feet, but the well was deepened to 6,472 feet and completed on May 30 for an initial flow of 500 bbls. per day of 35-gravity clean oil.

The second well, which was drilled two locations east and one south of the discovery well, proved the importance of the area by establishing a 1,200-bbl. potential. A third well was completed July 18, which penetrated the productive strata to a depth of 7,264 feet. The well, No. 3 Rancho San Francisco, made 1,769 bbls. in 24 hours through a 26/64-inch choke. The oil is 35.5-gravity. During the test the tubing pressure averaged 850 pounds, showing that the well is capable of much greater production.

Regional geology:

The field is near the eastern limits of what is generally spoken of as the Ventura Basin. This large geosynclinal feature lies within the Transverse Ranges with its axis running nearly due east-west. Toward the western extremity of the basin, in the vicinity of Ventura, the thickest known Tertiary section is found, but in the Newhall vicinity the eastern end of the basin has been uplifted to form mountainous topography.

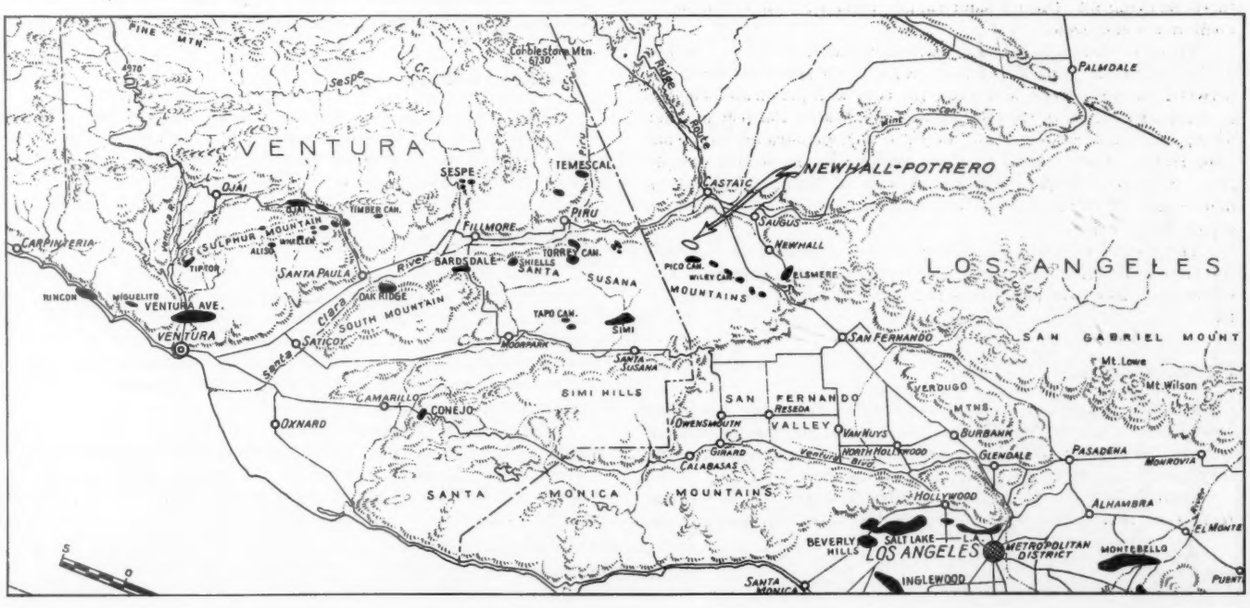
Immediately south of the field lies the axis of the Pico anticline. The field is located on a minor fold which is an offshoot of the Pico anticline.

Method of discovery:

After completion of a detailed surface geological survey, seismograph work was carried on, and the discovery well was located by the subsurface data obtained. Work was done under the direction of R. W. Sherman, formerly chief geologist for Barnsdall Oil Co., and E. W. Galliher, formerly assistant chief geologist but now chief geologist due to Mr. Sherman's resignation.

Surface evidence of structure:

A bowing of the beds at the surface is easily mapped to show



Service on New Fields

an anticlinal nose plunging north 50 degrees west from the north flank of the Pico anticline. Closure of this structure was determined from surface work, but the evidence was indirect. A fault trending east-west abruptly ends the plunging anticlinal nose and it was inferred that this feature closed the structure on the southeast. Definite evidence of closure was revealed through seismograph work.

Type of structure:

Dip on the flanks of the Newhall-Potrero structure varies from 25 to 35 degrees. A vertical fault plane closes the structure on the southeast, separating it from the Pico anticline. Beds on the flank of the Pico anticline in this vicinity dip from 55 to 60 degrees.

The Salt Canyon fault, trending north-south, comes into the west edge of the structure to complicate the geology. It is also believed that minor faulting will be found in the more sharply folded portion of the field. Otherwise the field presents a fairly simple geologic picture, characterized by the sharply folded anticlinal nose.

Columnar section:

Drilling is started in the Pico shale of Upper Pliocene age. This is a hard, uniform gray shale body approximately 2,000 feet thick. After passing through the Pico, the Repetto formation is found, which is represented by sandy dark-gray shales and sands. The top of the Miocene section is encountered at about 6,000 feet. The drill was still in Upper Miocene at the greatest depth so far reached, which was 7,264 feet in the third well completed. Cores from the Miocene section show hard, platy, organic shales interbedded with various types of sands ranging from silty sands to well-cemented conglomeratic sands. These are interbedded with oil sands.

Oil and gas zones:

The producing oil sands of the Newhall-Potrero field may be seen about 1 mile south of the field where they outcrop in the Pico oil field. Here the sands are mouse-colored, containing no asphalt deposits.

Texture of the oil sand is irregular and controls the selection of casing points and completion depths on the Newhall-Potrero wells. The oil zone so far penetrated has been one-half sand and one-half shale. The shale is black and fractured, some of the fractures carrying oil. The oil sand ranges from silty to well-assorted medium-grained sand.

There is insufficient data to attempt classification of the productive strata in separated zones. Wide variation has been noted between the three wells, and while the first well penetrated 300 feet of solid silty oil sand, the second well penetrated 753 feet of alternating sands and shales, while the third well penetrated more than 1,000 feet of strata similar to those exposed in the second completion. It is quite evident that the success of future wells will be determined by sedimentation as much, or possibly more, than by structural position.

The second well completed had a much greater potential than the first well. This is probably due to the fact that a 60-foot well-sorted sand zone was penetrated in No. 2 which was not reached in No. 1.

Drilling practice:

Drilling is carried on with an electric rig using purchased power from a near-by power line. The electric rig used is unusually large, having two 150-horsepower motors on the drawworks. Rotary speeds as high as 300 r.p.m. are maintained.

Drilling in the area is slow and difficult, especially in the Pico formation. In the first wells about 250 feet of casing was used for surface pipe, but now the practice has been adopted whereby about 2,000 feet of surface pipe is set through the Pico to prevent loss of water from the mud and the subsequent sloughing of the shale. Mud is a problem from the surface to the completion depth.

Spacing program:

A spacing program of 10 acres per well has been adopted. The drilling is being planned so that the rig will not have to be moved more than one location, or 660 feet, at each move.

Completion practice:

Completion of Newhall-Potrero wells is by the usual method with 8⅝-inch casing cemented above the oil sands with 5¾-inch slotted liner hung through the productive strata. Before bringing in the wells they are equipped with 2½-inch tubing which extends down into the liners. Chokes are installed on the christmas trees. Water is circulated to displace the drilling mud, and the tubing is swabbed to start flow.

Production and curtailment:

The two completed wells have established a joint potential of 1,700 bbls. per day. The joint allowable is 500 bbls. per day, of which No. 1 produces 135 bbls. while No. 2 produces 365 bbls. Both wells flow 24 hours per day through small chokes, usually 6/64-inch openings, in order to meet requirements of the California curtailment program.

Gas-oil ratios:

Gas-oil ratios are low, averaging 700 feet per barrel.

Gravity of oil:

Average gravity is 33 degrees A.P.I.

Gas cap and bottom water:

No evidence of a gas cap in the structure above the oil has been noted. Although 753 feet of productive strata have been drilled, no bottom water or intermediate water has been produced. Connate water appears in some of the cores.

Pipe line facilities:

The field was given a crude-oil outlet by construction of a 4-inch line to General Petroleum Corp. pump station on Highway 99, about 4 miles east. A gasoline plant will probably be constructed in the field at some future date.

Prospects:

Since the entire anticlinal structure marking the Newhall-Potrero field lies within the limits of the Barnsdall Oil Co. 4,000-acre Rancho San Francisco lease, it is evident that only one concern will be involved in the development. Because of the oversupply of oil, drilling is held down to the minimum. Only one rig is in use on the structure, although there is enough proved acreage at present for more than 20 wells.

Estimates of producible oil in the reservoir vary so widely that they are hazardous. This is mainly because of the observed irregularities in sedimentation of the producing members. It is likely that between 25 and 50 wells will be completed as producers in the field.

ENGINEERING and OPERATING

In This Issue

CENTRAL STEAM UNIT USED TO DRILL WASCO, CALIFORNIA, PROPERTIES
By T. P. Sanders ..... *Page 38*

The seismograph high was located on the properties of the Continental Oil Co. in the Wasco field and at this point a semipermanent steam generating plant was located to supply power for eight wells to be drilled by the company. Insulated steam lines 1,800 feet long are being used and as the property is developed these lines will be moved.

CHEMICAL PHASES OF TREATING WATER FOR FLOODING OIL PROPERTIES
By Buell O'Conner ..... *Page 43*

The results of five weeks of visiting among various water-flooding operations scattered throughout southern Kansas and northeastern Oklahoma are tabulated and with specific consideration given to the chemical treatment given the waters used. In addition to the discussion of the actual operations the author offers suggestions.

FRACTIONATING COMPLEX OIL MIXTURES AS APPLIED TO REFINERIES
By W. L. Nelson ..... *Page 44*

Second of a series of articles detailing a method for calculating optimum tower operating conditions. In the first article (July 21, 1938, Page 41) an equation was developed to show the relationship among reflux, number of plates, character of the stock in the tower, etc. In this article, the author has simplified the equation and has applied it.

HEATING OIL DEMANDS WIDEN THE RANGE OF CRACKING OPERATIONS
By George Weber ..... *Page 48*

Modern refinery design is paying considerable attention to flexibility of primary distillation to permit making a wide range of furnace oil cuts. Simultaneously, the combining of skimming and cracking and the further use of polymerization, reforming, stabilization, etc., within the same unit has supplied engineers with a very complex problem.

GAS ENGINES SUPPLY POWER FOR WATER-FLOODING OPERATIONS
By H. Vinton Potter ..... *Page 53*

Even though water-flooding has been used many years as a means of recovering oil from depleted or partially depleted properties, new methods for water treatment, power application, etc., are being developed and here the author describes an operation in Neosho County, Kansas, where gas engines have proved very satisfactory.

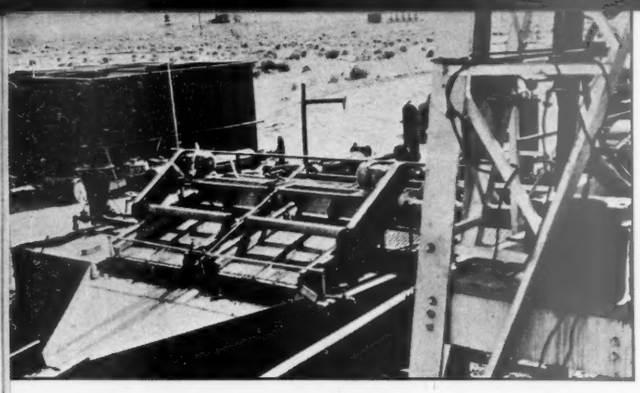
RETARDING ACIDIZING SOLUTION AND ITS APPLICATION IN OIL FIELDS
By Paul Menual ..... *Page 54*

From the standpoint of visualizing the chemical reaction between the acid and oil-bearing formation, the author has described how the procedure may be controlled to influence the results of acidizing.

OPERATING IDEAS ..... *Page 41*

PROBLEMS FROM READERS—*By L. G. E. Bignell* ..... *Page 61*

QUESTIONS ON TECHNOLOGY—*By C. K. Francis, Ph.D.* ..... *Page 63*



Vibrating screens mounted on top of suction tank. In background are portable mud and water storage tanks

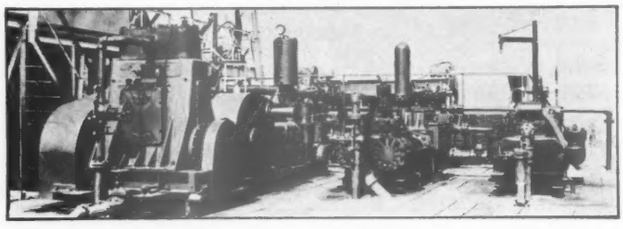
Central Steam P

Drill Wasco F

By T. P. SANDERS

Since completion of the discovery well, many eyes have been turned toward the Wasco field of California to watch development of the world's deepest commercial oil sand. To date interest has been centered primarily on equipment. Special attention has been given to Continental Oil Co.'s assembling of a new rig, for it was a foregone conclusion that its decisions would be based upon experience gained in drilling the record-breaking discovery well of the field. Surprises were in store, for the equipment and its use represent several distinct departures from standard practice.

Most conspicuous is the small three-boiler steam plant, which is located fully 1,800 feet from the derrick. Results, however, make it difficult to criticise this unusual practice. The fact that the three boilers are sufficient has been ably demonstrated by the drilling-time curve on K.C.L. A-3, the first well to use them. A depth of 9,813 feet was reached in 30 days, which includes five days' lost drilling time due to cementing surface pipe at 500 feet and an intermediate string at 5,500 feet. This exceptional speed record serves as a gauge to indicate the volume of work done by the boiler plant.



Mud pumps on floor of Continental Oil Co.'s new rig which has been designed to drill wells in the deep Wasco sand

The boilers were located at such a great distance from the derrick because they are expected to supply steam for seven or eight wells from their present position. It is probably the first time in history that a central steam-generating plant has been located by seismograph survey. In order to serve as many wells as possible from its original site, the plant was placed near the point indicated through geophysical work as the apex of the subsurface structural dome.

Use 40-Acre Spacing

Because of the expense of drilling to the deep sand, a 40-acre spacing program will be used in the Wasco field. This program will, of course, result in many long steam lines from the boiler plant to the widely scattered drilling wells. At present there is wide-spread controversy as to how long a steam line can economically be used to avoid moving the boiler plant.

Too often, in calculating the cost of moving a boiler plant, items such as water and gas connections, grading, erecting wind breaks, guying stacks, and installing the lighting systems are ignored. If all such items are duly considered, the use of a central boiler plant may be justified under many conditions.

In many respects the use of central steam-generating facilities is an outcome made possible by improvements such as superheating and insulation against heat loss. Without these features a central plant could never have been attempted at Wasco because of the excessive condensation which would occur in an uninsulated line 1,800 feet long carrying saturated steam. In recent years, however, both superheated steam and adequate insulation have come into quite general use in California, and many operators believe that the limitations which applied to the older plants should be discarded or revised.

Low Pressure Drop

The maximum length of steam line to be used in the Wasco field has not been determined, but it is probable that the boilers will be moved if the drilling rig is located more than 2,000 feet from their present location. The site at which drilling is now in progress was selected for offset reasons, and happens to lie about one-third of a mile from the surmised center of the field. A long steam line is therefore in use, and an oddity is seen in the fact that the boilers are much nearer to the producing discovery well than to the drilling well for which they supply steam.

In spite of its unusually great length, there is only a 10-pound pressure drop in the steam-supply line on the new Continental rig under normal operating conditions. Even under abnormally high steam demand the pressure drop seldom exceeds 15 pounds. No condensation takes place in the line because of superheating and efficient insulation.

The steam-supply line has been designed for easy moving. The entire line is divided into 40-foot sections. These sections are easily unflanged, rolled onto a low sled, and dragged to the new location without disturbing the insulation.

The three boilers in use at the Continental rig are of a type never before used in California. They are portable 350-pound steam generators, each of which has a smoke-box superheater. Steam is delivered at 310 pounds pressure and 650 degrees temperature.

Brick Fire Wall

Firing in the new steam generators is accomplished from the backs of the fire boxes with the flame directed downward and toward the front of the boilers. A light wall of fire brick is built at the front of each fire box to prevent impinging of the flames against the front section. Since the burning gas must circulate entirely around the fire box, the combustion is complete by the time it reaches the flue tubes. The rate of firing is, of course, automatically regulated by the pressure on the steam supply line.

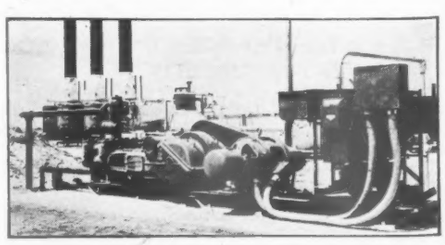
Due to the short 8-foot tubes used in the boiler barrels, the flue-gas temperatures are unusually high. However, this heat is utilized by the superheaters, which are attached to the smoke-box end of the barrels. The hot flue gases and the saturated steam pass through the superheater in opposite directions. Under this system the hot gases entering the superheater first exchange heat with the steam leaving the unit. As the gases cool in passing through the superheater they meet steam of constantly lower temperature to which they are able to give up part of their heat. As a result, the flue gas enters the stack at a temperature lower than that of the steam leaving the superheater.

In order to increase the boiler-plant efficiency a semi-closed steam system is used on Continental's new Wasco rig. The exhaust steam is returned from the rig, and from the boiler-feed pumps, to raise the temperature of the feed water. Since no insulation is used on the exhaust line, the steam returns to the boiler plant carrying much water. It enters a deaerating chamber into which cold make-up water is sprayed by means of a 1½-inch piston-type water regulating valve to condense the saturated steam. Condensed steam and make-up water both run into a feed-water supply tank where a temperature of about 150 degrees is usually maintained, due entirely to utilization of the heat in the exhaust steam.

Preheating Equipment

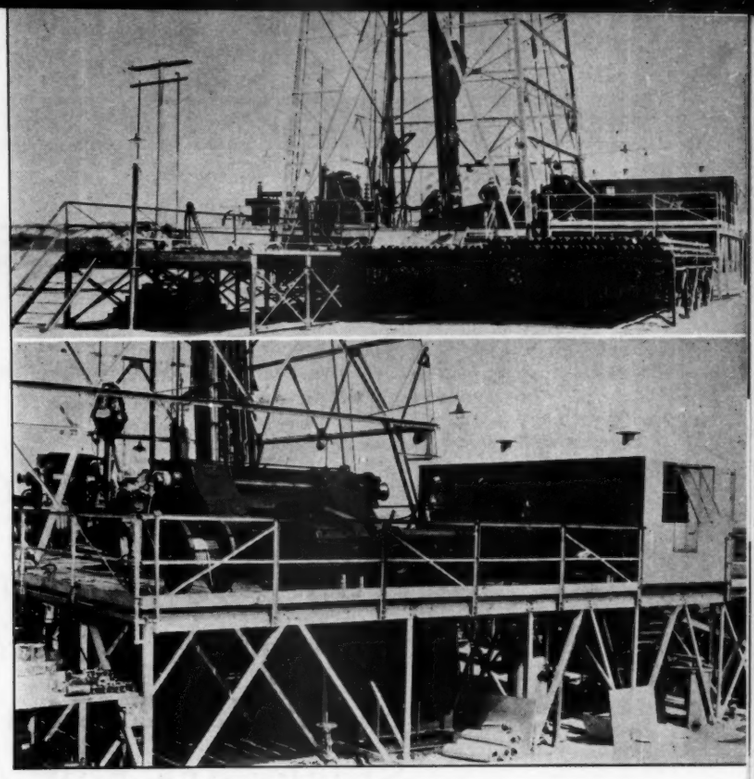
A small portion of the exhaust steam is not condensed in the deaerating section, and is discharged to atmosphere. The preheating equipment, including condenser, storage tank and boiler-feed pumps, is mounted on one frame as a portable unit. Continental Oil Co. has several of these portable assemblies in use at the present time. Oil from the engines, which always finds its way to the exhaust, often prevents the use of exhaust steam for preheating purposes. On the Continental installations, however, a 6-inch internal oil separator in the deaerating section traps out the included oil to prevent it from causing trouble in the boilers.

In keeping with modern California deep-well drilling practice, the new Continental rig uses a



Pump for central mud-storage pit

n Unit Used to o Properties



Steel substructure supporting rig. At top is shown casing rack in foreground and below is shown the open drawworks and engine. To the right is the dog house in which each man has a separate locker

14 by 14 inch twin-cylinder drilling engine. This drives both rotary table and drawworks, and is the only steam engine at the rig, exclusive of the pump engines. Steam is not used for the stand-by hoist. Following Continental's long established practice, the stand-by hoist is operated by a 25-55 hp. electric motor. Under this practice an independent source of power is at hand to remove the drill pipe in case some basic trouble should be encountered in steam generation.

Three Mud Pumps

Mud is handled by three pumps, two of which are direct-acting slush pumps, and the third is a power pump driven through a multiple V-belt drive by a 12 by 12 inch twin-cylinder steam engine. Because of the variable steam cut-off valves and the increased engine speeds, the power pump can be used to handle a large volume of mud with greater steam economy.

A compact surface mud plant is used. The derrick floor is 8 feet above ground level. This permits mounting the vibrating screens on top of a steel suction tank without getting them too high to receive the mud returns. The fluid, stripped of its cuttings, drop into the tank. The three pumps connect directly to this tank with short suction lines.

Storage for mud and water is provided at the rig by large portable tanks. A central mud storage pit has also been provided on the leases. This is equipped with a motor-driven mud pump and will be used primarily to store mud from completed wells until it is required elsewhere. Thus it is seen that several methods have been put into use for saving drilling fluid, an item which proved expensive on the Wasco discovery well.

The greatest saving of mud, however, is being accomplished through the experience gained in drilling the first two wells. By using thinner mud, which is not so easily gas-cut, it has been found necessary to discard very little fluid during the drilling of K.C.L. A-3.

The appearance of the new Wasco rig is striking, mainly because of the many instances in which steel has replaced wood in its design. Wood is used only for flooring, and even the flooring around the slush pumps, vibrating screens, and suction tank is of steel grating. The 178-foot derrick is mounted on steel and concrete and has all steel sills to support the wooden flooring. The casing racks and walk-ways are constructed of steel angles topped with wood members.

Perhaps the feature which distinguishes the rig most of all as a unique industrial plant is the so-called dog-house. This is a portable, ventilated building placed beside the drilling engine and contains an individual locker for each member of the drilling crews. No housing is used over the engine or other equipment at the rig, though it is possible that some housing will be added when weather becomes inclement.

Any visitor coming upon the Wasco field is immediately forced to recognize that here is a different kind of oil field. The future of many new developments will be determined in this area. First to meet the eye is a 186-foot derrick of a design never before used. It is at Standard Oil Co. of California No. 1 Mushrush location. The legs are vertical three-fourths of the way up the structure, then from a point above the run-around the legs are tapered to the crown. This design provides more room for stacking drill pipe in the derrick without giving unneeded space.

In spite of the low allowables, there is no indication that development of the Wasco field will be delayed. Use of a central steam plant by Continental Oil Co. is another indication that in a few months completions at 13,100 feet will become a routine matter, just as the 11,400-foot Rio Bravo completions have become routine the past few months. Because the Continental Oil Co. has deviated from the usual course of moving the boilers to the rig location and will use a central steam plant instead, considerable interest will be developed in the final results after drilling more wells.

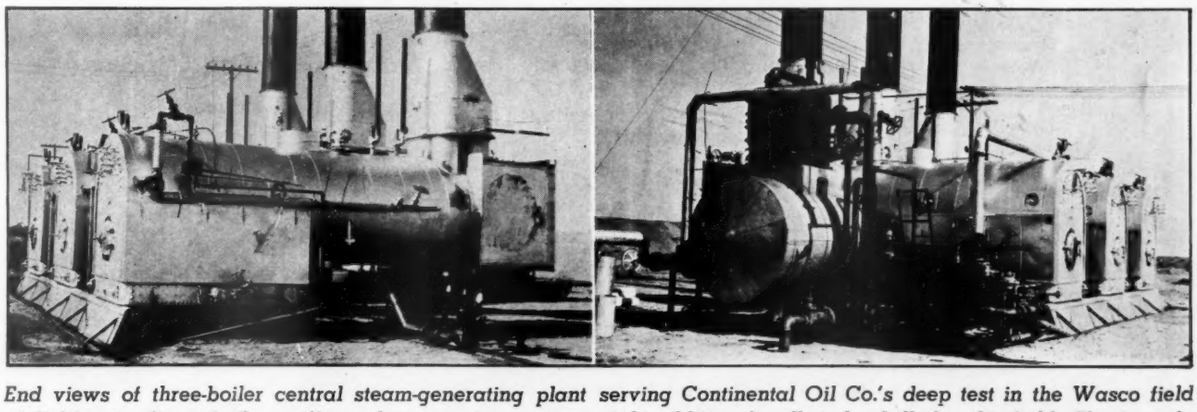
Sprinkling Sand Over Paint Prevents Slipping

A process that prevents slipping on wet metal decks has been devised by the Standard Oil Co. of California.

Steel decks are especially slippery when men are wearing rubber boots or when even a small quantity of oil is present. It is found that if a freshly painted surface is sprinkled with sand and allowed to dry, a nonskid surface is the result. Although it may seem that the sand would grind the paint off the metal when the surface is scuffed by boots and shoes, this is not the case.

In the marine service where this experiment was tried, ships' officers and engineers on vessels where this type of surface has been in use for several months report that it holds up well and accomplishes its purpose.

To obtain an even distribution of sand on the freshly painted deck plates, small holes are punched in the bottom of a 1-quart can, which is filled with sand and shaken slowly over the area to be made skid-proof. Clean, washed sand is preferred.



End views of three-boiler central steam-generating plant serving Continental Oil Co.'s deep test in the Wasco field of California. Same boilers will supply power for seven or eight additional wells to be drilled in this field. This is probably the first time a semipermanent steam plant has been used for drilling. Its location was made by seismograph

Crack it, dont store it

Six million barrels more of fuel oil were added to storage in the four weeks ended May 28, says OIL AND GAS JOURNAL Stocks are now 40 percent above a year ago

Straight-run fuel oil ought to be run to Dubbscracking units—never to storage

Dubbscracking gives a high yield of the best kind of gasoline from it and leaves enough fuel oil to satisfy the narrowed market—Dubbscracked fuel oil, worth more than the oil you started with

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Chemical Phases of Treating Water for Flooding Projects

By BUELL O'CONNOR

In dealing with certain aspects of water treatment to prevent plugging of oil and gas producing formations in the operation of water-flooding projects, practices described here are those found in northeastern Oklahoma and southeastern Kansas during five months' experience in the field. This paper is concerned particularly with supersaturation and algae.

By supersaturation it is meant the water contains in solution more of the compound than it contains when at equilibrium. This balance may be altered by changes in temperature, pressure, and concentration of constituents. However, the thermodynamic equation presents no information. In the case of water used for flooding the raw water under original conditions is sometimes made unstable by a change in one or more of these factors. In the case of river water (most commonly used for flooding) supersaturation may be due to varying concentrations of CO_2, which besides changes in temperature, may be caused by organic consumption of the same. CO_2 affects the $(CO_3)^{--}$ due to the relation,

$$CO_2 + H^+ + OH^- = H^+ + HCO_3^- = 2H^+ - CO_3^{--}.$$

In the case of subsurface water, particularly brines, the solubility of calcium and magnesium carbonates has been decreased at times as much as 70 parts per million due to changing the factors that govern the solubility equilibrium. Possible variables causing this change are: Pressure; H_2S concentration. and CO_2 concentration.

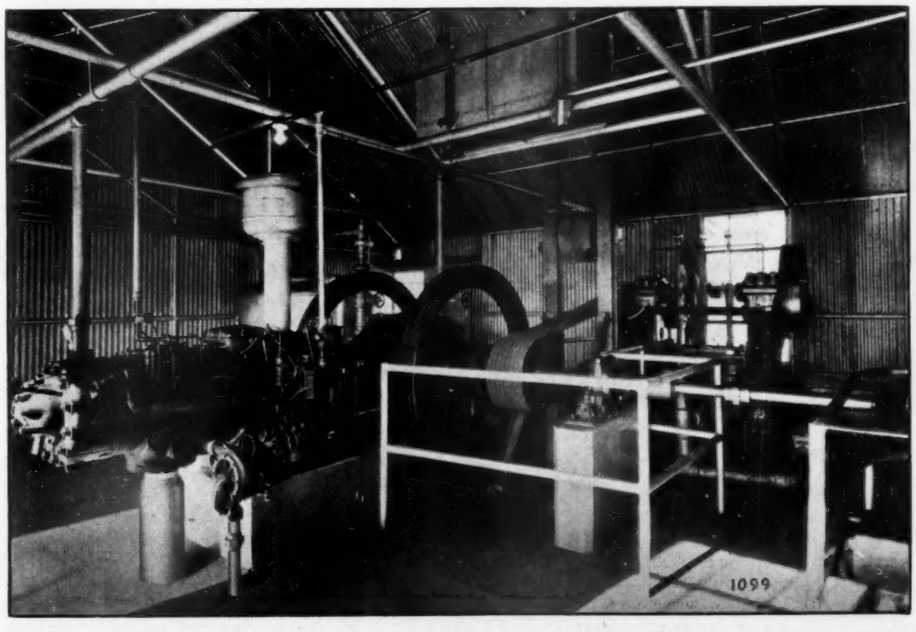
The H_2S concentration, as it governs the H^+ ion content and total ion content, indirectly affects the solubility of calcium carbonate, while CO_2 affects the calcium carbonate solubility as explained above. In both cases an unstable water is possible and it is the time lag required for supersaturation to reach equilibrium that causes trouble. Stability may sometimes not be effected until after the water has passed through the filter and is in the formation. Consequently at the face of the sand a carbonaceous plugging material is built up. Other than by retention for sedimentation this difficulty of supersaturation is met in different ways. One method is to seed the water by the recirculation of sludge. Another is to raise the pH value thus increasing the amount of supersaturation. This method infers that the degree of increase away from equilibrium will increase the speed of reaction toward equilibrium. A different approach is to decrease the pH value to a point where the water is stable. Or, one can go even further to a point where the water is undersaturated with respect to calcium and magnesium carbonates. In the first case there would be no material increase in corrosion; in the second case there might be.

As the solubility of calcium carbonate is affected by several variables, its exact solubility cannot be measured by just checking the amount of calcium and carbonate present and hence its degree of supersaturation is difficult to ascertain. Temperature, pressure, total salt content, and carbon dioxide concentration are all possible factors. For example, salt concentration as low as 800 p.p.m. will increase the solubility of calcium carbonate three-fold. Of the standard methods of checking supersaturation, one has been purely visual (seeing if water maintains its sparkly appearance for a period of 24 to 48 hours). In the second, known as the shaking test, one titrates for a methyl orange endpoint on one sample and then on a fresh sample after thorough agitation with calcium carbonate. a filtered sample of the same size is titrated. If the alkalinity has increased, the water is undersaturated; if decreased, the water is supersaturated; and if equivalent, the water is stable. This method is not entirely accurate. For one thing, aluminum especially in the form of sodium aluminate may obscure the methyl orange endpoint. A more exact method has been worked out by others. There can be developed for any water an equation containing measureable quantities that would give the pH reading of a stable water having such a calcium, alkalinity, and total ion content of the particular water. This theoretical pH can be compared to the actual and the stability of the water determined.

The control of organic growth is important largely to prevent incrustation of the filters. Such trouble was reported by one of the Oklahoma operators. Especially in the summer time surface waters that are in a sluggish condition tend to rapidly build up colonies of various microscopic growths. Present coagulating agents do no more than partially settle the live organisms to the bottom of the mixing tanks. Consequently the filter sands are open havens to further harbor the algae and protozoa. A complex material with excellent cementing properties is formed in the filter sands, and resultant plugging is difficult to free by backwashing. In severe cases acid is used and is effective due to its action on entrapped carbonaceous matter. Copper sulfate has been used as an algicide. It is particularly toxic on the lower, less complex forms. The disadvantages of its use are its corrosive action on iron and steel caused by displacement of the iron by the copper followed by a cell action and its inapplicability in case of alkaline waters. Chlorine is also used. It has the advantages of being effective on both algae and protozoa, of functioning under both acid and alkaline conditions, and of being less corrosive. However, it is dangerous to handle and necessitates more expensive equipment. To avoid these difficulties, at present, hypochlorite is often used to give a residual chlorine of .2 and .5 p.p.m. Chloramines are possible reagents having the advantage that smaller doses are possible, due to the fact, that its algicidic action is confined largely to toxic chloro-products while chlorine spends itself in oxidizing any oxidizable matter present. To complete the picture of algicides other reagents known to be of value include numerous phenolic compounds and other oxidizing agents such as permanganate which generally speaking are more expensive than present reagents.

Due to the difference in water and in the viewpoint of the operator on various projects the choice of chemicals, the manner of application, and the amount added varies considerably. For coagulating purposes in the Mid-Continent area alum was the first employed and is still the most prevalent. As the chemical equation involved in alum going from aluminum sulfate to the coagulating agent, aluminum hydroxide, increases the acility of the water, lime is usually added as a counteraction. The

(Continued on Page 56)



Plant at Mid-Continent flooding project equipped with 50-hp. oil engine driving 4½ by 8-inch triplex water injection pump, 4,000 bbls. capacity per day at 900 pounds pressure

Fractionating Complex Mixtures

Simplification of Fundamental Equations

By W. L. Nelson

In the first article of this series (Page 41, issue of July 21), fundamental equations were derived which relate the percentage of any component or fraction in the vapor from the top plate, to the percentage of the same component in the vapor from any other plate of a fractionating tower. These equations are of a fundamental nature and all of the possible variables were purposely left in the equations so that they would serve as a basis from which any type of simplification could be made. The purpose of this paper is to present modifications that are more usable than the fundamental equations.

This is the second of a series pertaining to the fractionation of petroleum mixtures. The first article, which appeared in The Oil and Gas Journal of July 21, 1938, Page 41, presented the fundamental equations and the relationship among reflux, number of plates, character of stocks, etc. The present article presents modifications of these equations into more usable forms and points to certain limiting special cases. Other articles will appear which will discuss in detail the application of the equations, effect of number of plates, the amount of reflux, and other phases of tower operation.

Liquid-Volume-Percentage

The fundamental equations (Equations 8, 10, 11 and 12)[1] were based on mol percentage because this basis greatly simplifies the handling of equilibrium relationships, but oil analyses are usually based on liquid-volume-percentage. Hence, the following relationship between mol percentage and liquid-volume-percentage, which is merely a constant involving molecular weight and density, will be useful.

$$y_1 = \frac{\dfrac{8.33\, d\, Y_1}{m}}{\dfrac{8.33\, d_p}{m_p}} \times \frac{1}{100} \qquad (13)$$

$$y_{n+1} = \frac{\dfrac{8.33\, d\, Y_{n+1}}{m}}{\dfrac{8.33\, d_{n+1}}{m_{n+1}}} \times \frac{1}{100} \qquad (14)$$

By dividing:

$$\frac{y_{n+1}}{y_1}\left(\frac{m_p\, d_{n+1}}{m_{n+1}\, d_p}\right) = \frac{Y_{n+1}}{Y_1} \qquad (15)$$

Let,

$$J = \frac{m_p\, d_{n+1}}{m_{n+1}\, d_p} \qquad (16)$$

in which:

- m = molecular weight of fraction under consideration.
- m_p = molecular weight of overhead or top product.
- m_{n+1} = molecular weight of material at the (n + 1) plate.
- d = density of fraction being considered.
- d_p = density of overhead product.
- d_{n+1} = density of (n + 1) material.
- y_1 = mol percentage of given fraction in overhead product.
- Y_1 = liquid-volume-percentage of given fraction in overhead product.
- y_{n+1} = mol percentage of given fraction in (n + 1) material.
- Y_{n+1} = liquid-volume-percentage of given fraction in (n + 1) material.
- J = a constant by which ratio of mol percentage is multiplied to convert the ratio to a basis of liquid-volume-percentage.

Although this relationship is developed for the conversion of a ratio of vapor-compositions from mol to liquid-volume-percentage, it is equally valid for relating a ratio of liquid compositions or any other combination of compositions. In other words, a value of J can be determined in a manner similar to the above, for any combination of products or materials whether they be liquids or vapors and regardless of what points in the tower are being considered, by using the proper d and m values. Thus, several kinds of ratios are possible, and may be used for various cases. Note that vapor compositions may be converted to corresponding liquid compositions by introducing equilibrium constants.

$$\frac{y_{n+1}}{y_1}(J) = \frac{Y_{n+1}}{Y_1} \qquad (17)$$

or,

$$\frac{y_{n+1}}{y_1}\left(\frac{J^1}{K_{n+1}}\right) = \frac{x_{n+1}}{y_1}(J^1) = \frac{X_{n+1}}{Y_1} \qquad (18)$$

or,

$$\frac{y_{n+1}}{y_1}\left(\frac{K_1}{K_{n+1}}J^{11}\right) = \frac{x_{n+1}}{x_1}(J^{11}) = \frac{X_{n+1}}{X_1} \qquad (19)$$

Equation 17 may be used to relate two vapor compositions, Equation 18 for relating a vapor and a liquid composition such as those involved between a top vapor product and the first side-draw product of a tower, and Equation 19 for relating two liquid compositions such as those that are involved in studying the fractionation attained between two side-draw products.

Relation to Primary Feedstock

Although the fundamental equations may be used in their original form, difficulty is encountered because the compositions of both of the products changes as the amount of fractionation is changed. Thus, there is a particular couple of simultaneous products that will be produced by a certain amount of reflux and a certain number of plates. If an erroneous distribution is assumed for one of the products as a basis, the percentage composition of the other product will not total to 100 per cent unless the particular ratio and number of plates that is required for such a case are employed. Obviously such a trial-and-error method is not satisfactory and hence the following relationship by which compositions of both stocks can be determined by a single computation involving the primary feedstock, such as crude oil, proves to be useful.

By a material balance of the component under consideration:

$$100\,C = g\,Y_1 + h\,X_{n+1} \qquad (20)$$

$$X_{n+1} = \frac{100\,C - g\,Y_1}{h} \qquad (21)$$

Substituting in Equation 18:

$$\frac{X_{n+1}}{Y_1} = \frac{\dfrac{100\,C - g\,Y_1}{h}}{Y_1} \qquad (22)$$

$$= \frac{100\,C}{h\,Y_1} - \frac{g}{h} \qquad (23)$$

$$Y_1 = \frac{100\,C}{\dfrac{X_{n+1}}{Y_1}\,h + g} \qquad (24)$$

or,

$$Y_1 = \frac{100\,C}{h\,J\left(\dfrac{x_{n+1}}{y_1}\right) + g} \qquad (25)$$

or,

$$Y_1 = \frac{100\,C}{h\,J\left(\dfrac{y_{n+1}}{K_{n+1}}\right)\left(\dfrac{y_{n+1}}{y_1}\right) + g} \qquad (26)$$

in which:

- C = liquid-volume-percentage of component in crude oil or primary feedstock.
- g = percentage of top product based on crude oil.
- h = percentage of lower product based on crude oil.
- $\frac{y_{n+1}}{y_1}$ = value of ratio in terms of known quantities as given in Equations 8, 10, 11, and 12 in the first article appearing July 21, Page 41, for towers having different numbers of trays.

The fundamental Equations 8, 10, 11, and 12 in Part 1 of this series can now be stated in terms of

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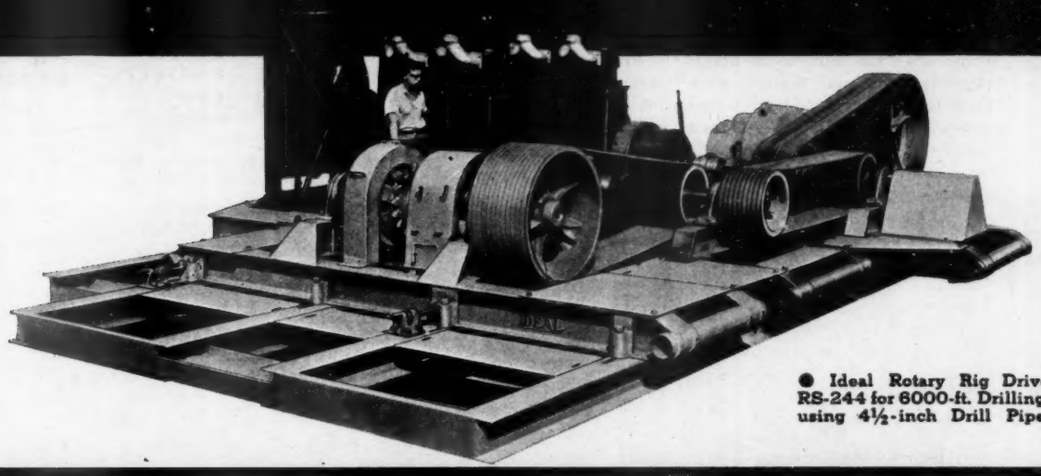

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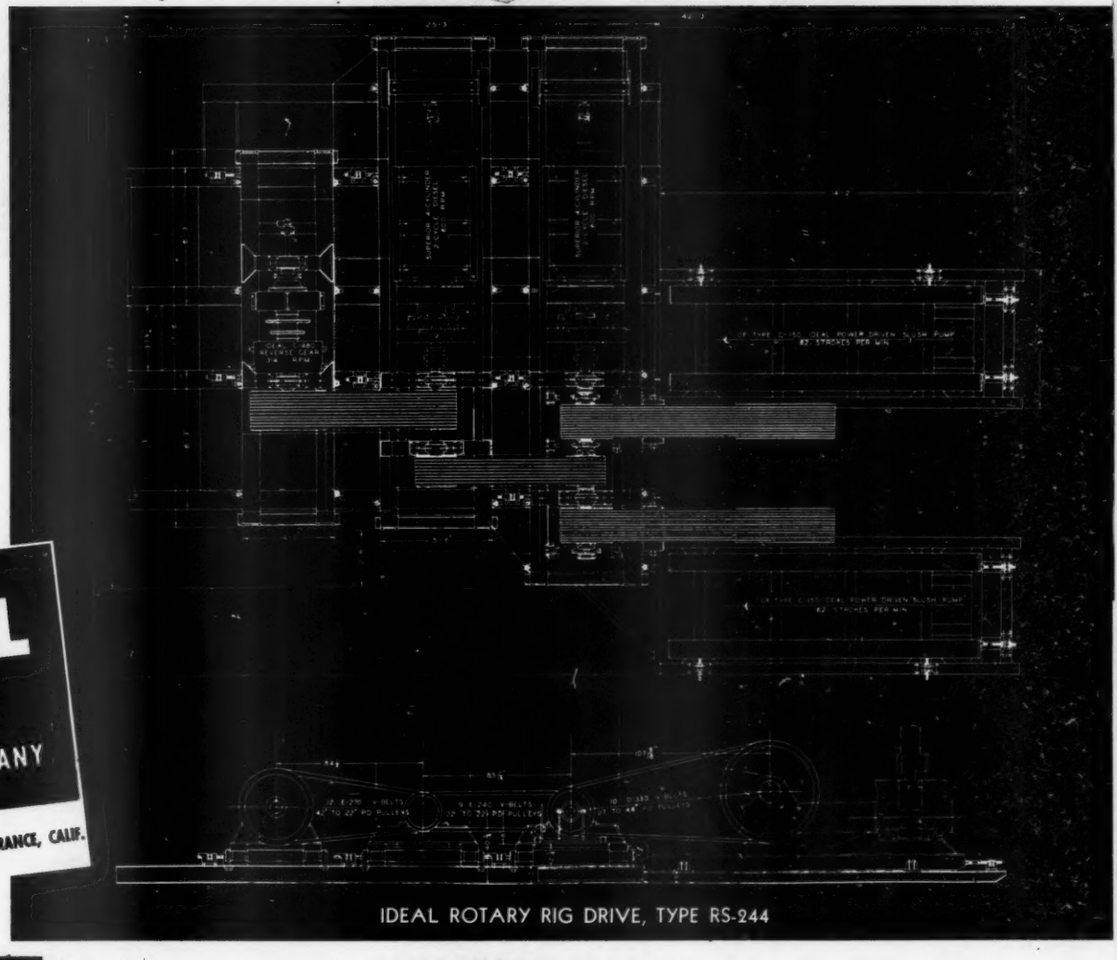

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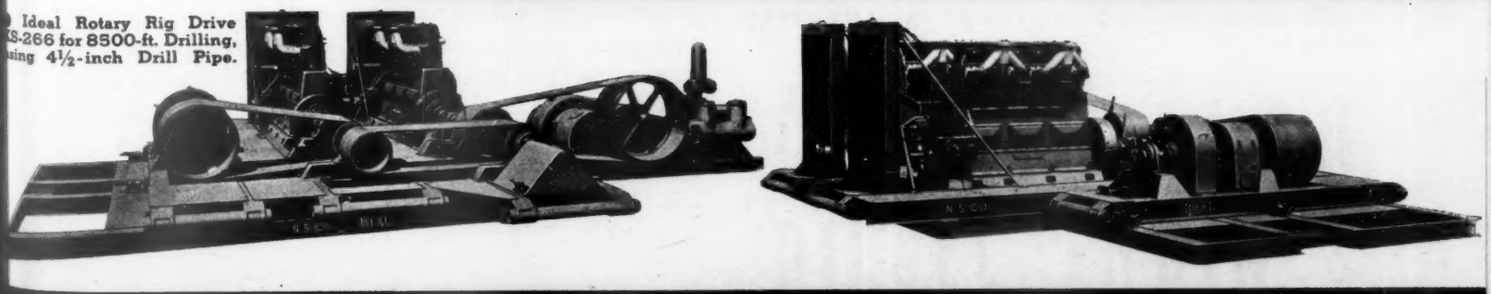

liquid-volume-percentage and in terms of the primary feedstock as given in Equations 27, 28, 29, 30, and 31. Note that a new equation, No. 31, has been introduced and that additional equations, such as Equation 31, can easily be written by an inspection of the equations tabulated thus far. The original equations have also been arranged into a more convenient mathematical form, and, finally, the value of "a" has been introduced. The introduction of the numerical value of "a" makes the equations relate the top and bottom plate compositions rather than the ratio of the top composition to the composition at some intermediate tray. Thus, Equation 10, which applies to the second tray of a tower, is made to apply to a three-plate tower, as in Equation 28, by the introduction of a = 2. Note that we have apparently gained an extra plate by stating the equation in terms of the liquid bottom (or side-draw) product. Thus, Equation 8 relates y_2 and y_1, with only one equilibrium contact, whereas the corresponding Equation 27 relates X_2 and Y_1 and thus involves two equilibrium contacts because the bottom product is withdrawn as a liquid from the second tray. In this way Equations 27 to 31 each involve one more plate than the corresponding Equations 8, 10, 11, and 12.

Infinite Reflux and Least Reflux

The use of an extremely large amount of reflux results in a value of "e" that is so large that its effect overshadows most of the other variables in the equations. Thus all of the terms in the denominators of the equations become zero except "g" and the last term. This results in a relatively simple form which involves only the percentages and properties of the two compounds being considered, the composition of the primary stock as designated by C and the equilibrium constants on each plate.

2-plate tower:

$$Y_1 = \frac{100\,C.}{g + \dfrac{hJ}{K_2R\left(\dfrac{D}{R} + e - 1\right)}\left(D + \dfrac{R(e-1)}{K_1}\right)} \qquad (27)$$

3-plate tower:

$$Y_1 = \frac{100\,C}{g + \dfrac{2hJ}{K_2R\left(2\dfrac{D}{R} + 2e - 1\right)^2}\left[D\left(2\frac{D}{R} + 2e - 1\right) + \frac{D}{K}(2e-2) + \frac{R(2e-2)^2}{2K_1K_2}\right]} \qquad (28)$$

4-plate tower:

$$Y_1 = \frac{100\,C}{g + \dfrac{3hJ}{K_1R\left(3\dfrac{D}{R} + 3e - 1\right)^3}\left[D\left(3\frac{D}{R} + 3e - 1\right)^2 + \frac{D}{K_2}(3e-3)\left(3\frac{D}{R} + 3e - 1\right) + \frac{D}{K_2K_3}(3e-3)^2 + \frac{R(3e-3)^3}{3K_1K_2K_3}\right]} \qquad (29)$$

5-plate tower:

$$Y_1 = \frac{100\,C}{g + \dfrac{4hJ}{K_3R\left(4\dfrac{D}{R} + 4e - 1\right)^4}\left[D\left(4\frac{D}{R} + 4e - 1\right)^3 + \frac{D}{K_3}(4e-4)\left(4\frac{D}{R} + 4e - 1\right)^2 + \frac{D}{K_2K_3}(4e-4)^2\left(4\frac{D}{R} + 4e - 1\right) + \frac{D}{K_2K_3K_4}(4e-4)^3 + \frac{R(4e-4)^4}{4K_1K_2K_3K_4}\right]} \qquad (30)$$

6-plate tower:

$$Y_1 = \frac{100\,C}{g + \dfrac{5hJ}{K_4R\left(5\dfrac{D}{R} + 5e - 1\right)^5}\left[D\left(5\frac{D}{R} + 5e - 1\right)^4 + \frac{D(5e-5)}{K_3}\left(5\frac{D}{R} + 5e - 1\right)^3 + \frac{D(5e-5)^2}{K_3K_4}\left(5\frac{D}{R} + 5e - 1\right)^2 + \frac{D(5e-5)^3}{K_3K_4K_5}\left(5\frac{D}{R} + 5e - 1\right) + \frac{D(5e-5)^4}{K_2K_3K_4K_5} + \frac{R(5e-5)^5}{5K_1K_2K_3K_4K_5}\right]} \qquad (31)$$

$$Y_1 = \frac{100\,C}{g + \dfrac{hJ}{K_1K_2 \ldots\ldots K_n}} \qquad (32)$$

Although infinite reflux is an extreme case that is seldom met in practice, it is the perfect-fractionation with which other conditions can be compared. However, a value of "e" of 10 results in a degree of fractionation that is nearly as good as infinite reflux, and this is particularly significant because the value of "e" for the gasoline-kerosene section of a topping tower usually exceeds 10, and hence the separation attained under such conditions may be studied with fair accuracy by use of the relatively simple Equation 32.

Just as in two component formulations, there is a minimum amount of reflux which is necessary, and this quantity is referred to as "least reflux." The least reflux that can be used corresponds to a value of "e" of one. Thus, a value of e = 1 eliminates all terms in the denominators of the equations except the g term and the first term.

$$Y_1 = \frac{100\,C}{g + \dfrac{(n-1)hJD}{K_nR\left[n + (n-1)\dfrac{D}{R} - 2\right]}} \qquad (33)$$

This equation can be used for those special cases in which the amount of reflux that is used is just enough to cool the overload product from the side-draw temperature to the top temperature; and no excess reflux overflows from the side-draw plate to lower plates in the column. This situation is common in only one commercial condition—namely, the section of tower that is situated directly above the vaporizer of a multiple-draw tower. As an example, it is common practice to supply only enough reflux in a topping tower to cool the products to their respective plate temperature and to condense the side-draw products. Thus in such a tower, scarcely any reflux overflows from the plate above the feed plate and hence the section of plates between the feed plate and the lowest side-draw plate operates at a conditions of nearly least reflux.

References

1. Nelson, Fractionating Complex Mixtures, The Oil and Gas Journal, July 21, 1938, page 41.

Northern Natural to Lay Iowa-Minnesota Line

Northern Natural Gas Co. will lay 39 miles of 16-inch pipe to extend the main trunk line system from Ventura, Iowa, to Albert Lea, Minn.

Two Wells Pumped With Small Power Consumption

For production men who are interested in comparing power consumption incurred in pumping under similar conditions, figures have been made available from the power bill of a property in Upton County, West Texas. The accompanying illustration shows the unit operating at Baker No. 1 which has a walking beam capacity of 9,000 pounds, 6 feet working centers, and rotary counterbalance. Power is supplied by a 7½-horsepower electric motor. Depth of well is 2,300 feet; tubing 2-inch; rods five-eighths inch; plunger 1¾-inch; stroke 22 inches; strokes per minute 11. This unit has a backside crank which pumps a second well. Typical monthly power consumption is given as 1,096 k.w.h.

Seven and one-half horsepower motor pumping two wells

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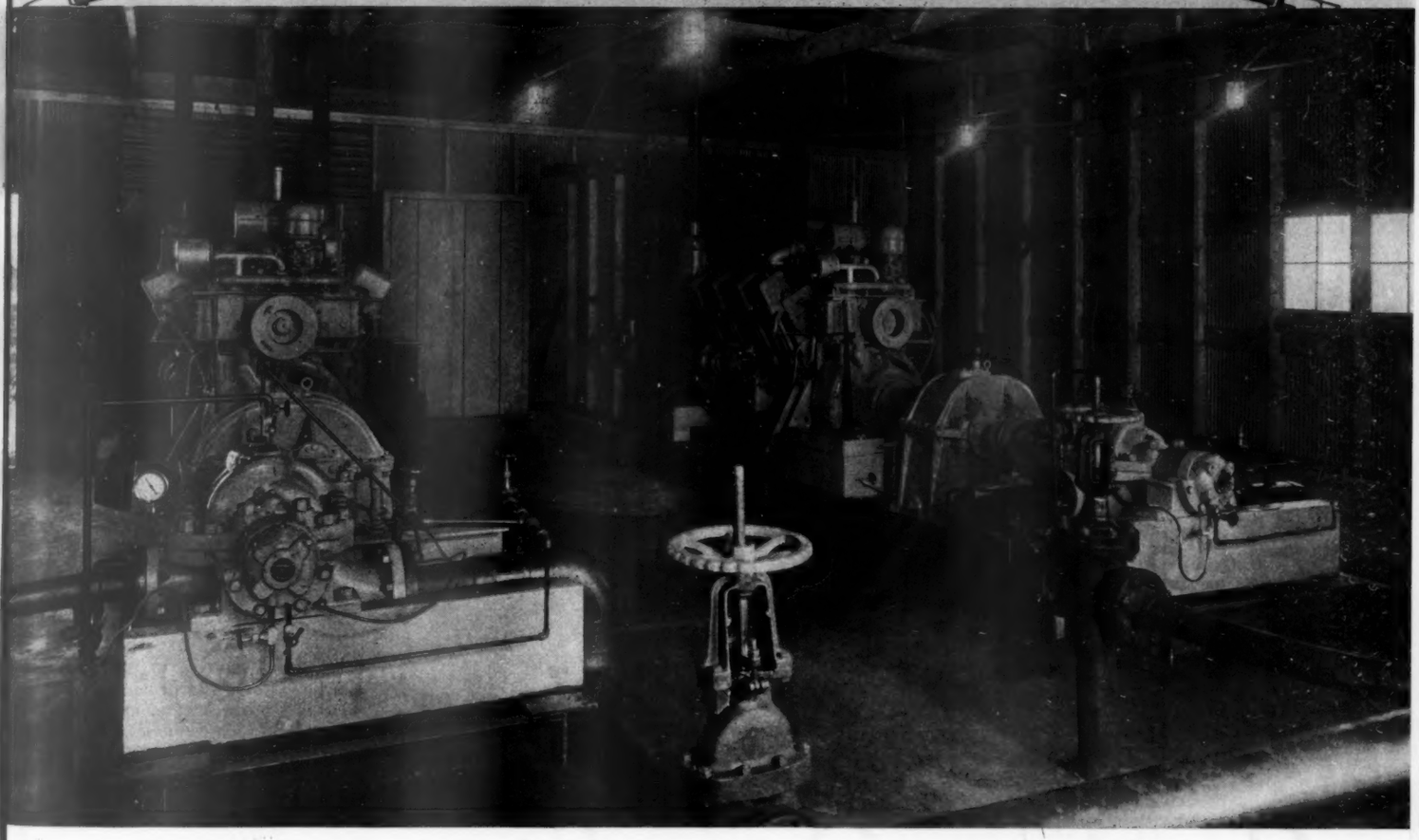

DAY AND NIGHT four pumping stations, powered by seven 160-horsepower "Caterpillar" Diesel Engines, keep pushing the oil along the Michigan-Toledo Pipe Line Company's 26-mile line between Mt. Pleasant and Crystal. "Caterpillar" precision manufacture and ordinary care keep these sturdy engines "fit" and assure thousands of hours of life and efficiency at minimum operating and maintenance cost.

The installation above shows the two Mt. Pleasant station engines connected to Worthington 4-stage centrifugal pumps through speed increasers. Their capacity is 21,600 barrels of oil per 24-hour day.

On this job, as on many others, "Caterpillar" Diesel Engines are definitely proving their efficiency, economy and capacity for long stretches of uninterrupted service. They are the ideal power for all oil-industry needs—mud, well and line pumping, drilling, current generating, operating refinery equipment. No long delays or interruptions, for *no U. S. oil field, pipe-line or refinery is ever more than a few hours—some not more than a few minutes—from complete "Caterpillar" parts-and-service facilities.*

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DIESEL ENGINES

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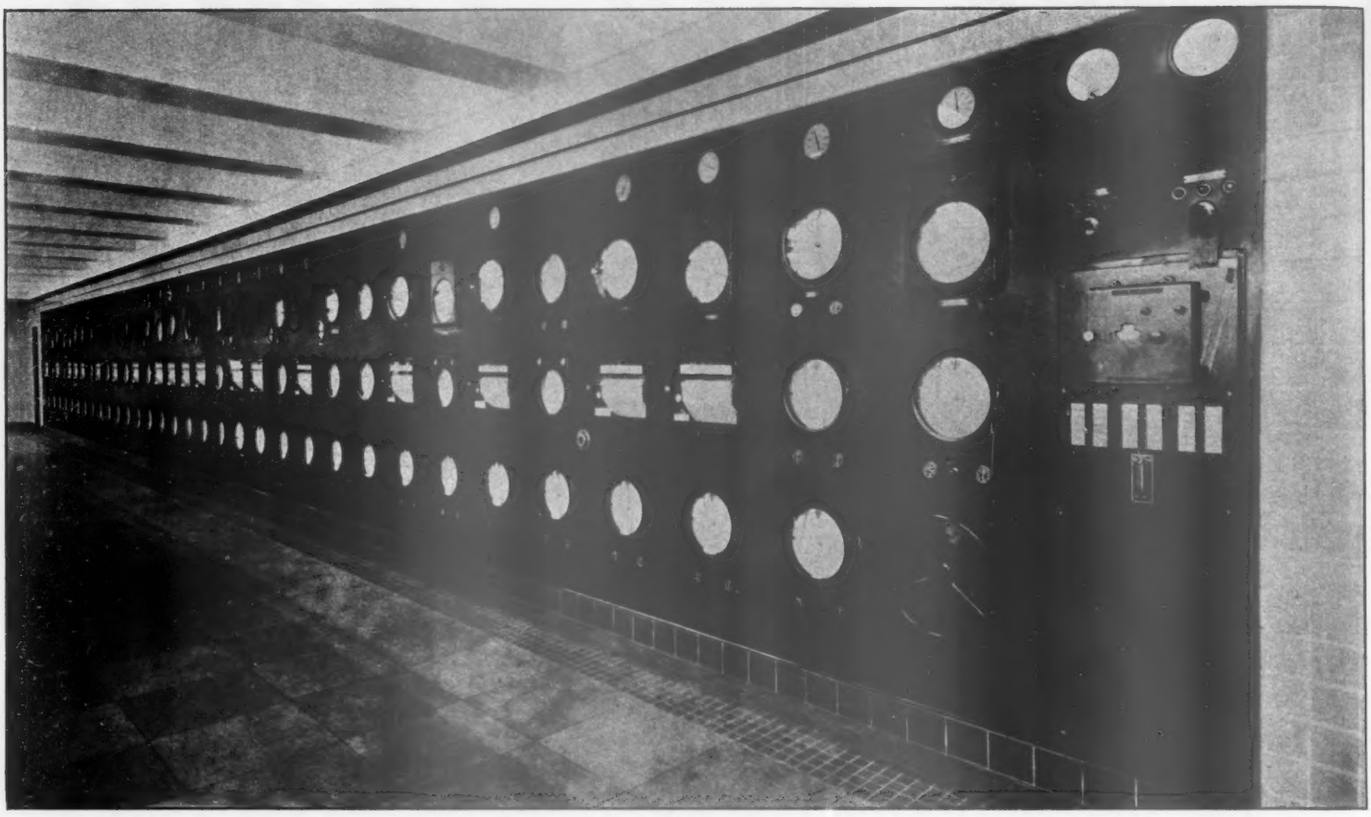

Control board on new combination unit in a Gulf Coast refinery. Extreme flexibility of operation is provided by centralizing controls

Heating Oil Demands Widen the Range of Modern Cracking Operations

By GEORGE WEBER

The revival in heating oil demand over the past few years is showing its effect in current refinery design. Long omitted from primary consideration in the refining process, distillate fuel oils are now commanding special attention in projecting new refining schedules. An important reflection of this development is seen in the increased flexibility of gasoline and fuel oil production in new combination units.

A maximum yield of high octane gasoline has long been the principal aim of the average refiner. Toward that end, refining technique has been dominated by developments in distillation, cracking, treating, blending and polymerization.

Gasoline still constitutes the basis of refining economy, but it is sharing more and more of the premium product class with the various fuel oils. The record gains in the demand for heating oils during the past few years, followed by an increase in price to place them in the profit class have brought about the emergence of a secondary premium product. As such, heating oil is being given consideration in the development of modern refining processes.

The distillate fuel oil group comprises several products which are enjoying an expanding market. Outstanding among these is domestic furnace oil. The demand for that product has been established by a widespread installation of oil burners in the northern states. Diesel fuels are also finding greater application, both in automotive and railroad use. Tractor fuels and range oil or kerosene complete the list of products which show improved market demands. These fuels, consisting of virgin and cracked stocks, comprise the class referred to generally as distillate fuel oils.

A considerable share of the increased demand for heating oils has been met by smaller refiners. A number of skimming and cracking plants have been converted or newly constructed to manufacture distillates of that type. In many cases crudes particularly adaptable to heating oil production have found a ready use in such refineries. In general the larger refineries of the Gulf Coast of Texas, which were designed for large gasoline production, have not increased their heating oil output in proportion to the demand, although design of new units finds them better prepared for such a change.

A general increase, however, is noted in Figure 1, representing the water shipments of the three classes of fuels from 12 refineries in the Houston-Texas City area. During the last half of 1937, bunker fuel, fuel oil and gas oil averaged about 4,000,000 bbls. monthly, and kerosene or range oil showed a general steady increase in shipments. Movements from the Houston-Texas City district may be considered as indicative of the Gulf Coast generally.

Furnace Oil Price

The substantial price increase commanded by furnace oils is responsible for the added attention which those products have been given by refiners. Figure 2 traces the refinery prices of two selected grades, Nos. 2 and 4 furnace oils in the New York area, to which Gulf Coast refiners have direct water connections. The heating oil prices are compared with those of 60 to 64.9 octane and 65 plus octane gasolines in the same area. During the autumn of 1936 the heating oils began showing strength with the widespread adoption of domestic oil burners in the North

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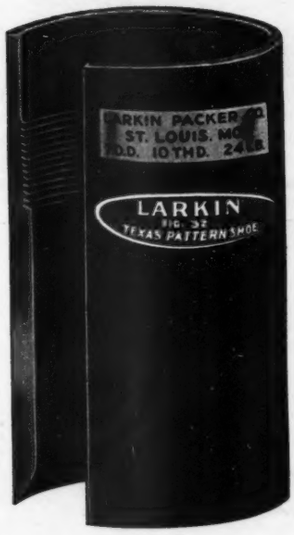

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and East. By early 1937 they had emerged from the marginal profit class and were making money for the refiner.

No. 2 furnace oil rose from 4¼ cents in the summer of 1936 to a high of 5⅝ cents during the following year, while No. 4 furnace oil strengthened from 3¾ cents to 5⅜ cents over the same period. Preparation for a record demand in the past season, followed by a mild winter resulted

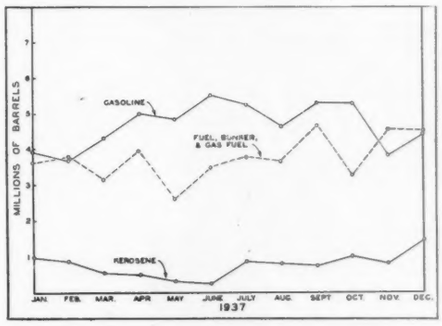


Fig. 1—Water shipments of gasoline, fuel, bunker and gas oils and kerosene from the Houston-Texas City refinery district during the year 1937

in high stocks of furnace oils, and brought the price sharply downward early in 1938.

Dependence on a heating oil market thus ties the refiner even more closely to weather conditions. A mild winter, as shown the past season, will greatly effect demand. This enhances the importance of flexibility in the relative production of heating oils and gasoline.

The seasonal peak demands for gasoline and heating oils roughly complement one another. The refiner whose plant affords him some latitude in varying production of the two products is better able to adapt his operations to current market demands.

Although the theoretical balance to be obtained in the flexible refinery, by withdrawing gas oil cracking stocks to supply a strong winter heating oil market, appears to settle the refiner's problem, the solution is by no means so simple. Heating oils now pay their own way, but the bulk of the refinery income is still from gasoline sales. Therefore, although it may be possible to closely adapt refinery operation to coincide with the market demand, there is a definite optimum point beyond which decreased gasoline production means diminished profits. In addition, withdrawing furnace oil fractions from cracking operations cuts into the production of premium cracked gasoline, limiting even further the operating range which the refiner can economically maintain. The problem varies with the price structures of the refined products, the geographical location of refineries and markets, and with the individual factors to be considered in each refinery.

In looking to the future, the advantage of designing modern combination cracking units to operate over a wide range of gasoline and heating oil cuts, is obvious. Much of the flexibility designed into the newer plants has not been utilized to its fullest extent, due to economic limitations in present markets. The trend away from fixed operations is definite, however, and the refiner with a new plant which will allow him considerable latitude is prepared for fluctuating future demands.

A survey of several representative refineries on the Texas Gulf Coast reveals the extent to which the latitude in varying yields has progressed.

Flexibility of New Units

In obtaining an index of this trend, the maximum and minimum limits of gasoline, kerosene and distillate heating oil cuts, in various combination crude distillation and cracking units, were noted. In addition, the extent to which these ranges were utilized, was also considered. The results, shown in Figure 3 represent the average figures obtained for data on the several combination units studied.

In gasoline production, an average allowable range of from 40 to 62.5 per cent of crude is available to the refiners in varying their output of premium product. The average spread of 22.5 per cent is representative of individual ranges of from less than 15 per cent to over 30 per cent.

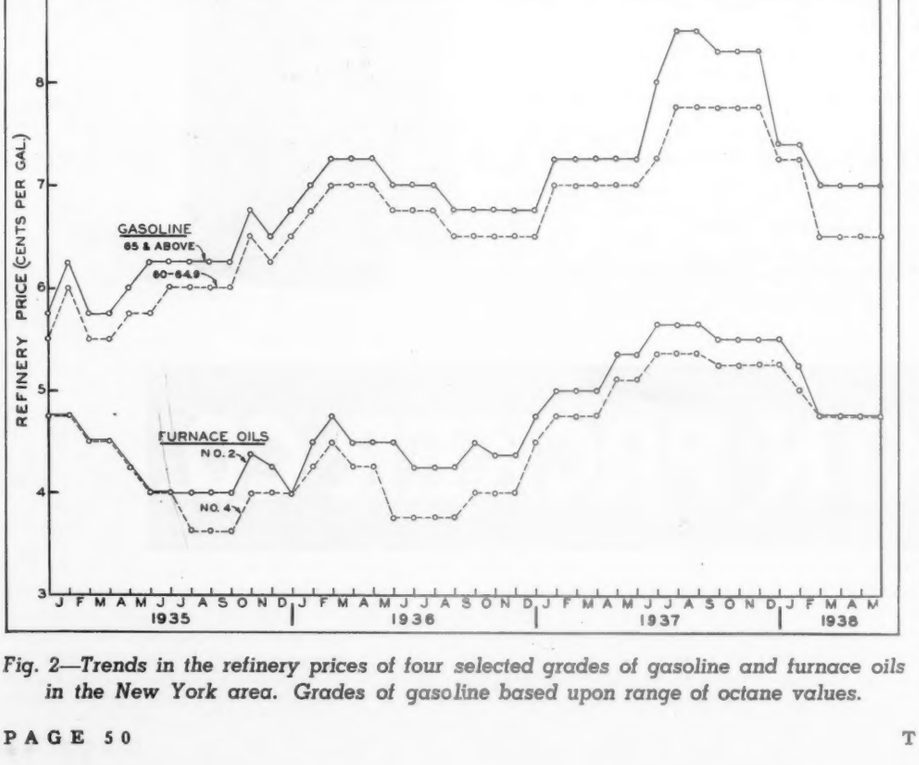

REFINERY PRICE (CENTS PER GAL.)
GASOLINE
65 & ABOVE
60-64.9
FURNACE OILS
NO. 2
NO. 4
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M
1935
1936
1937
1938

Fig. 2—Trends in the refinery prices of four selected grades of gasoline and furnace oils in the New York area. Grades of gasoline based upon range of octane values.

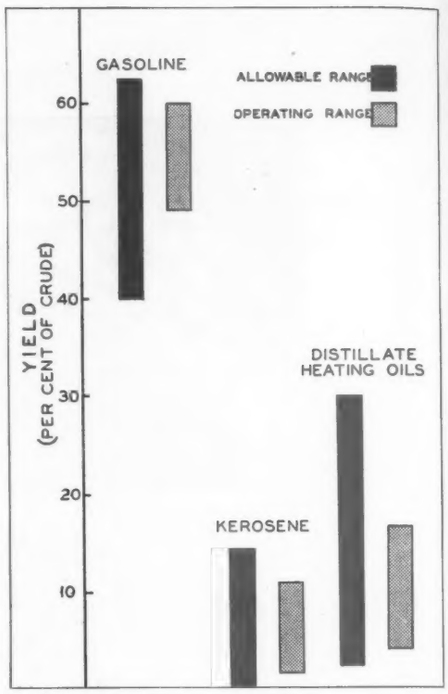


Fig. 3—Allowable ranges for maximum and minimum production of gasoline, kerosene and distillate heating oils in representative Gulf Coast refineries, compared to the actual operating ranges employed during the past year. Data are based on yields in per cent of crude charged

The latitude afforded in gasoline production arises generally from variable withdrawals of distillate fuel oil cuts from the units. Modern combination unit designs, which comprise selective cracking of three and sometime four different fractions of the crude, are well adapted to this type of flexibility. A majority of the units surveyed were able to crack all distillate cuts in the gas oil and fuel oil ranges, eliminating altogether the production of heating oils out of season, and augmenting the supply of premium cracked gasoline. Thus the minimum production in the average figure is low, at 2.5 per cent of crude charge.

In a strong heating oil market, however, where gasoline demand generally wanes, these refiners can produce up to an average yield of 30 per cent of crude, cutting into gasoline production to a marked extent. These limits allow a range in the manufacture of heating oils, of 27.5 per cent, a wide flexibility for individual combination units. This average spread is indicative of the majority of the individual ranges, which varied from 20 to 35 per cent.

In kerosene or range oil production, the maxima and minima averaged from 0 per cent to 14.3 per cent. Not all of the combination units allowed the production of kerosene, and the maximum production of any unit was 18 per cent.

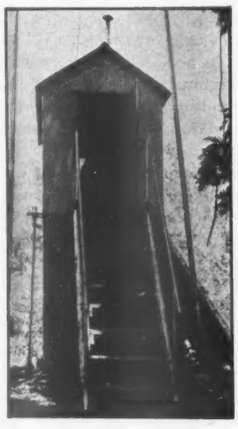
The extent to which these allowable ranges were utilized over the past year is of particular interest. Gasoline production, as might be expected, ranged nearer the top of the possible production range than did that of heating oils, since gasoline is still the premium product. An average range of from 49 to 60 per cent of yield was employed in the gasoline output of the units during the period considered. This approaches the possible maximum of 62.5 per cent, and half of the units included in the study operated at one time under maximum yield conditions.

Gas Engines Supply Power for Water-Flooding Operations

By H. VINTON POTTER
Oklahoma Natural Gas Co.

The recovery of oil by water-flooding is quite old, but its modern application is providing unusually favorable results.

According to accepted findings, it is possible to recover only about one-third of the oil from the producing stratum by ordinary methods. Recent water-flooding operations have convinced oil men that it is now possible to recover another third by this process, or double the amount originally thought possible to obtain.



About 2,400 bbls. of well water are supplied for flooding daily by the engine and pump housed as shown

While this story is mainly concerned with the application of gas engines to the flooding operation, a brief resume of flooding operations will serve to make a suitable background against which to project specific gas engine applications.

Flooding is usually done in fields which have been abandoned or have been depleted to a point where production is so low that it hardly warrants continued operations. The field which serves as a basis for discussion in this article had only 11 producing wells remaining, and the combined output was only 3 bbls. per day. These old wells are being plugged and the entire area, covering 100 acres, has been redrilled with a total of 28 water wells and 35 producing oil wells. The system of well placement is known in the field as the five-spot method.

While this operation was started only last December, oil production has already reached 325 bbls. daily with the prospect that the peak production will be somewhere in the neighborhood of 450 bbls. per day. This is expected to develop in about six months.

The operation described in this article is known as the Darby-Lynde and H. J. Walter field in section 22-27-18, Neosho County, Kansas, 1 mile east of Chanute. Passing near the lease is the Neosho River, which recently overflowed its banks and put the entire oil field under 7 feet of water. At the water's edge and set over a shaft sunk to bed rock, is an International gas engine connected to a rotary pump which draws from the river 2,400 bbls. of water daily, forcing it through 4,000 feet of 6-inch line to a 2,500-bbl. reservoir. From this reservoir, the water is lifted by a centrifugal gas-engine-driven pump to the 1,200-bbl. treating tank where algae is removed by chemicals. The water flows by gravity through a filter and then to an 800-bbl. clear tank.

From the clear tank it flows by gravity to gas engine powered triplex high-pressure pumps; and there, at 700 pounds of pressure, is forced down into the producing sand.

As shown in the accompanying picture, there are two high-pressure pumping units, each driven by 50-horsepower 2-cycle Superior gas engines. Only one of these units, however, is in operation, and is being used only to partial capacity; but increased operations in the fall will enlarge the field to such an extent that both units will be needed. The high-pressure pumps are identical 4½ by 8 Goulds triplex pumps. At present only one pump is operated, which allows ample opportunity for maintenance. From these gas engines are also run other pumps for various purposes, including the centrifugal pump used for raising the river water from the storage reservoir to the treating tank; and a smaller pump which is used to circulate the chemicals from the storage compartment to the point at which it is mixed with the river water.

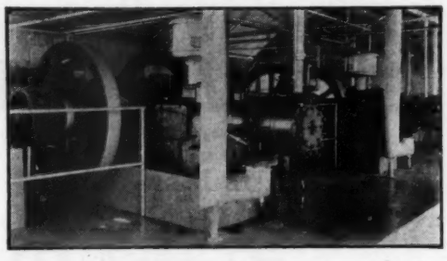
Many Uses for Gas

The use of gas engines in this operation does not end here, because gas engines again are used to lift the oil from the wells.

In many flooding projects, as much as 80 per cent of the fluid taken from the well is water; but in this case, the oil constitutes 70 per cent although the time will come, of course, when the water will represent a much larger portion. The water, when separated from the oil, does not constitute a problem at present—evaporation taking care of a large part of it; but the increased volume, when operations are extended, will make it necessary to provide some other means of disposing of the water. Present plans call for its return to the formation.

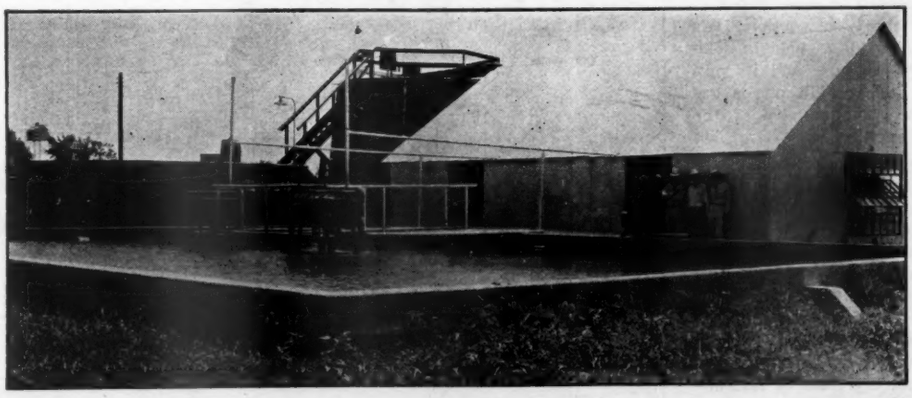
Field Pumps

The wells are now connected by rod lines to a central pumping unit which is operated by another Superior gas engine of 40-horsepower capacity. This pumping unit was completely under water during the recent floods; but 14 hours after the flood waters had receded, was in full operation again. It is interesting to note that, at the height of the flood, the wells continued to flow at the rate of 50 bbls. of oil per day even though they were not being pumped.



Two 50-horsepower gas engines supply power to force the treated, clear water into the producing sands

This is but one of the many installations where gas engines are performing superbly; and the total gas bill for the water lift, the high-pressure pumps, the oil pumping unit, and two houses on the lease averages only $242.62 per month. The certainty of the gas supply which is purchased from the Oklahoma Natural Gas Co., the ease with which the equipment is kept in order, and the low cost of operation—altogether have made this complete gas installation ideal for this operation. As the field is extended beyond the capacity of the present rod line facilities, it is planned to place individual pumping units at each well-head; the power to be furnished by a gas-engine-driven electric-generating plant.



Above are shown the water-handling facilities in the Darby-Lynde and H. J. Walter field which is 1 mile east of Chanute, Kans. In foreground is an 800-bbl. clear-water reservoir

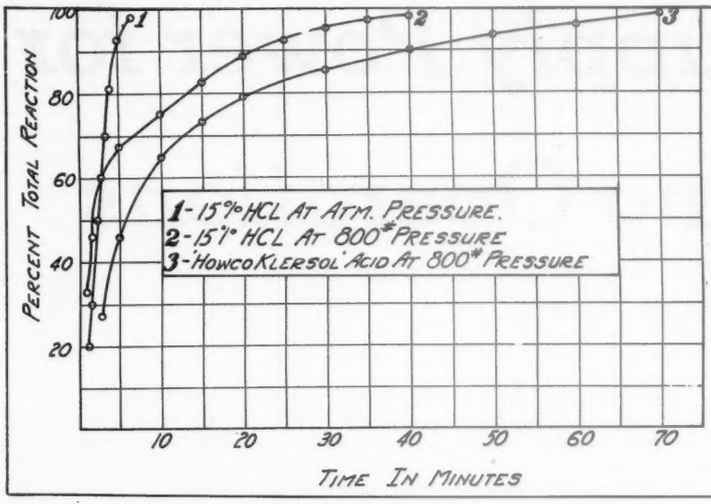


Fig. 1—Comparative rate of reaction of 15 per cent hydrochloric acid and Kersol acid No. 1 on fast reacting limestone

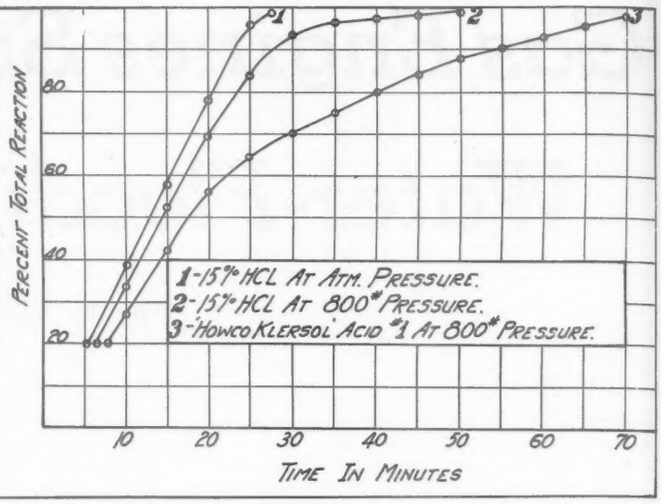


Fig. 2—Comparative rate of reaction of 15 per cent hydrochloric acid and Kersol acid No. 1 on slow reacting limestone

Retarded Acidizing Solution

By PAUL MENAUL
Halliburton Oil Well Cementing Co.

The cause of chemical action has mystified man from the earliest ages, and there is no prospect for an immediate answer. But the velocity or rate at which these reactions take place is generally of importance in all industrial processes.

Relatively new to oil recovery is the action of acid on limestone, known as oil or gas well acidizing, by which some of the formation is brought into solution, represented chemically, $2HCl + CaCO_3 = CaCl_2 + H_2CO_3$. However, this reaction is not as apparent as the secondary reaction, $H_2CO_3 = H_2O + CO_2$, which is observed as a vigorous effervescence or release of carbon dioxide.

The removal of one of the products of a chemical reaction will accelerate the reaction. Conversely it is true that the presence of those products in a solution will retard the first reaction. It is well known that carbon dioxide is held in solution as carbonic acid, by pressure, and its production in the reaction involved in oil or gas well acidizing will repress the activity of the acidizing solution.

Vigorous effervescence is observed when marble or pure limestone is acted upon by an acidizing solution, and if the limestone is in excess, the reaction is soon completed, as the acid becomes spent in six minutes, as is shown in Figure 1. If, however, a dolomite is used in place of pure limestone, effervescence is very slow and a correspondingly longer time is required for the acid to become spent, as is shown in Figure 2, the reaction being prolonged for 25 minutes.

These reactions are not extremes of fast and slow reaction formations, but are on average limestone and dolomite. With some limestones, the reaction is faster and under the same conditions the acid is spent in two minutes, while other dolomites react even slower. These reactions, it must be remembered, are observed at atmospheric pressure, where the carbonic acid formed is free to dissociate into water and carbon dioxide which escapes.

In oil or gas well acidizing the reaction takes place deep within the earth, where pressure is an important factor, and it is obvious that the free escape of carbon dioxide is greatly retarded or even prevented, and it is apparent that we may question that the rate of reaction of acid on limestone would be the same under these different physical conditions. Pressure is built up by the reaction of acid on limestone when confined in a closed chamber, and at the maximum pressure—1,000 to 1,300 pounds per square inch—the rate of reaction will be found slowest.

The hydrostatic pressure of the acid in tubing, exclusive of pump pressure, is 465 pounds for each 1,000 feet of depth. Therefore, in formations of 2,000 to 3,000 feet deep, the acid reacts under a pressure of at least 930 to 1,400 pounds per square inch. To duplicate these conditions in the laboratory, the apparatus shown in Figure 3 was used.

Acid from the filling bottle was discharged into chamber A by gravity, only valves 1 and 5 being then open. Pressure of 800 to 1,400 pounds is then built up in the apparatus by a pressure pump, using oil, valves 2, 6, and 8 only being open. Acid from chamber A is forced into the bottom of reaction chamber R, which has been filled with the limestone and oil, and a volume of oil

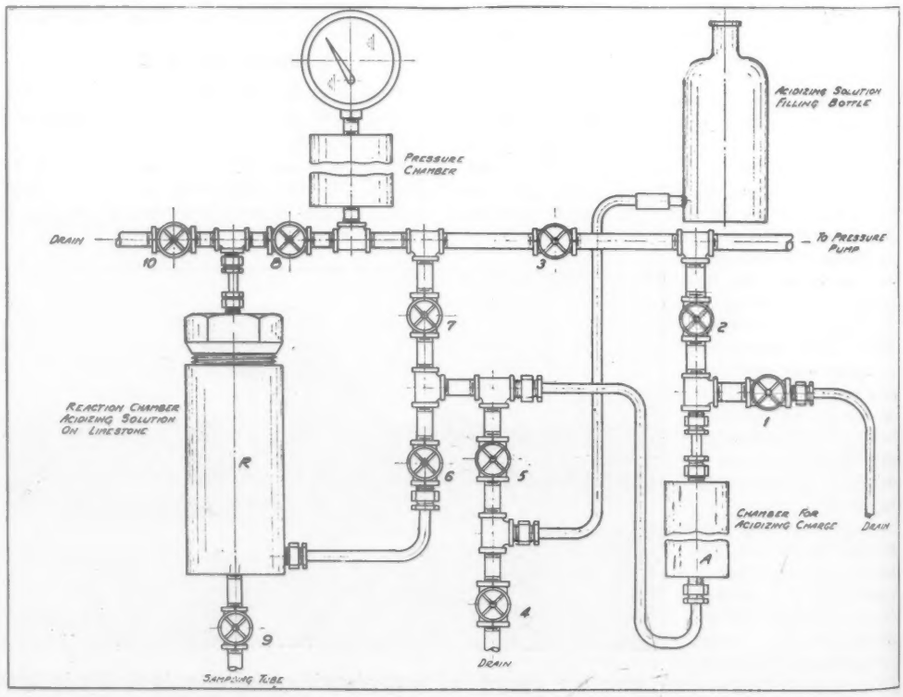
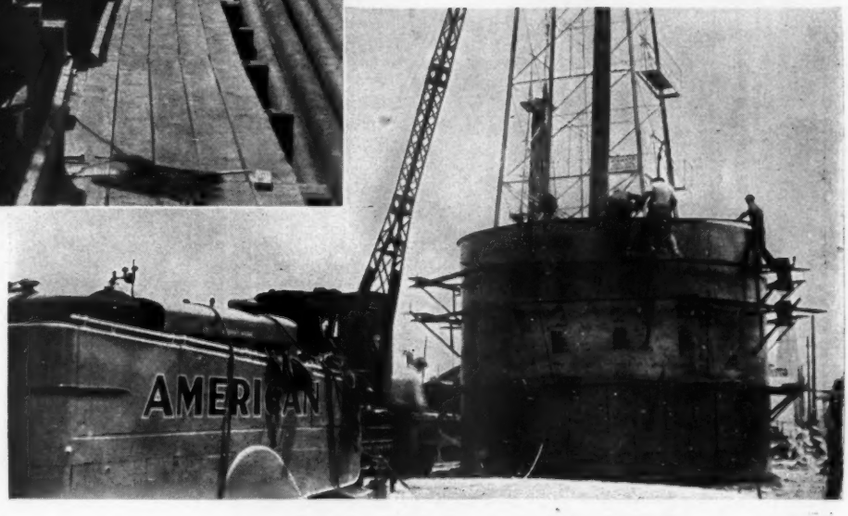


Fig. 3—Apparatus for determining the rate of reaction of acidizing solution under pressure

At left: One of five 10-inch gas lines for Mississippi River crossing. Joints are butt welds made by stove pipe method with Lincoln "Shield-Arc" Welders and "Fleetweld 5" Electrodes. River clamps are used. Courtesy of H. C. Price Co., Bartlesville, Okla.



At right: Erecting one of a battery of storage tanks in the California field. They are completely field-welded by Lincoln "Shield-Arc" Welders and "Fleetweld 5" Electrodes. Courtesy American Pipe & Steel Corp., Alhambra, California.

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bled off through valve 10 equal to volume of acid desired in the reaction chamber while a constant pressure is maintained. Constant pressure is also maintained throughout the reaction, valves 3 and 8 only being open. Samples of the reacting acidizing solution are withdrawn through the sampling tube, valve 9, at regular time intervals and the acidity determined by titration with standard sodium hydroxide solution. By this method we may follow the rate at which the acid is neutralized by the formation. The surface area of the limestone must be comparative.

When th acidizing solution reacts with the formation under quiescent conditions, which is the condition under pressure, the rate of reaction should be more nearly the same on both limestones and dolomites, and the rate of reaction upon limestones will be considerably retarded while a lesser effect will be found in the case of dolomites. This is found to be the case and is shown by Figures 1 and 2. Figure 1 shows conclusively that pressure alone retards the rate of reaction of acidizing solutions on fast reacting limestones.

The rate of reaction then being of importance, we may consider whether to retard the rate of reaction when acidizing fast-reacting limestone, or to accelerate the rate of reaction in the case of slow-reacting dolomites. We may not assume that the results found at atmospheric pressure are conclusive of the results that will be obtained when acidizing. Retardation of this rate of reaction may be accomplished by adding to acidizing solutions a very weak acid which will also form soluble lime salts, such as acetic and lactic acids, or by adding a soluble salt which will repress the activity of hydrochloric acid, or by adding a chemical which will form a more insoluble coating, upon the surface of the formation.

Chemicals were found which have a peculiar property of retarding the rate of acidizing reactions and also prevented the secondary precipitation and jellation which is frequently encountered in spent acid from acidized oil wells. These are termed the Klersol chemicals. When these chemicals are added to 15 per cent hydrochloric acid and allowed to react under pressure on limestones or dolomites, the rate of reaction is definitely retarded. In addition the spent acid is clear, even when allowed to react to completion (a Ph of 4.6), of low viscosity and free of the secondary precipitation or iron, aluminum, calcium, magnesium, and silicate compounds. This action of prolonging the effect of the treating acid is of great value in placing the acidizing solution to a greater distance in the formation from the well bore, before its action has ceased. The combination of Klersol with the *Howco* penetrating acid[1] makes a most efficient acidizing treatment. The penetrant has no effect on rate of reaction, but speeds penetration and equalizes distribution of the acidizing solution in the oil producing formation.

The retarded action rate of Klersol acidizing solution was determined in the laboratory at 800 pounds pressure on dolomite cores to be 98 per cent spent or .25 per cent hydrochloric acid in 70 minutes. However, field data obtained in acidizing this same formation show that in oil well acidizing the rate of reaction is much slower. In acidizing this dolomite formation, the acidizing solution was pumped slowly into the formation, this requiring one hour. The solution was allowed to remain in the formation two hours additional, then withdrawn. The spent acid was sampled and its acidity determined. The spent acid which had been in contact with the formation for two hours was found only 80 per spent spent and contained 3 per cent hydrochloric acid, while that which had remained in the formation four hours was found 99.7 per cent spent.

Klersol No. 1 is strictly a slower acting acid. Investigation shows that pressure alone has a retarding effect in rate of reaction up to a certain point. This is due to retention of carbonic acid formed which produces a buffer effect progressively slowing down the rate, but with the addition of certain chemicals, it was found that the complete reaction could be prolonged to 10 times that of acid at atmospheric pressure.

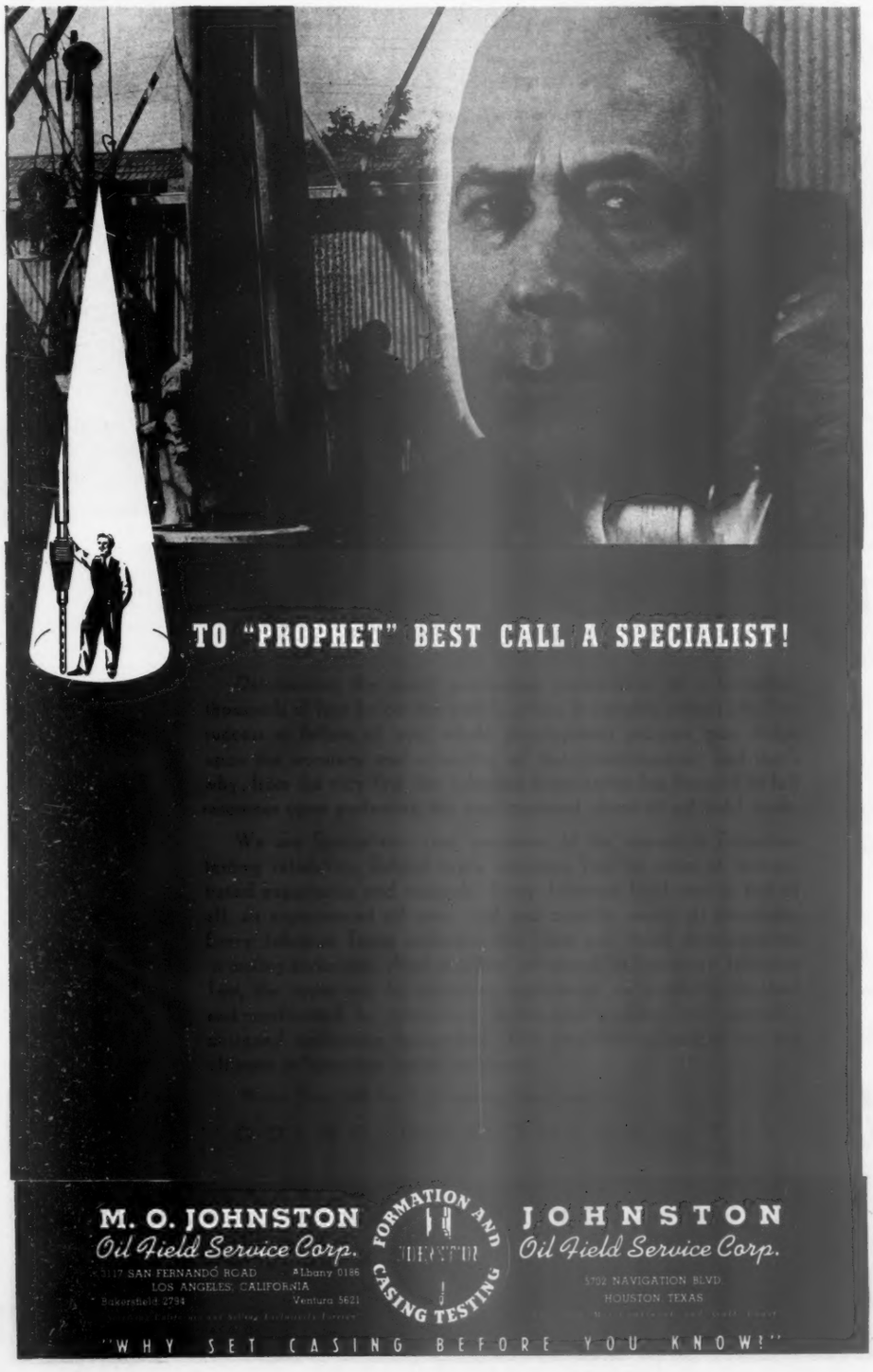
Klersol No. 2 contains more chemicals than Klersol No. 1. It is necessary here to have these three factors; a slow rate of reaction, an equalized or uniform rate of reaction on all soluble constituents in the formation, and to prevent secondary precipitations in the spent acid.

Reference: [1]Penetrating Acid, C. P. Parsons, The Oil and Gas Journal, May 28, 1936, page 26.

CHEMICAL PHASES

(Continued from Page 43)

amount added depends on the desired pH value. In many cases the weight of lime is about half of that of the alum. Advantages of alum are its cheapness and its easy availability, its ease of handling and storing, and the common knowledge regarding its properties and uses. On the chemical side it is more effective in dropping dead organic matter than sodium aluminate and for waters under pH 7.5 it is at its optimum coagulating efficiency. Another reagent in use is sodium aluminate in a highly caustic solution. During the winter this chemical was used at about 30 per cent of the plants. Its advantages include ease of accurate feeding, quick floc formation, and its use in alka-



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line waters, since its maximum coagulating efficiency is in waters of pH over 7.8. Then, too, it is particularly effective in seeding magnesium carbonate and is an adjunct in alum treatment according to the equation:

$$Al_2(SO_4)_3 \cdot 14H_2O + 6NaAlO_2 = 8Al(OH)_3 + 3Na_2SO_4 + 2H_2O$$

Still another material used is a mildly caustic liquid containing among its constituents some form of aluminum together with potassium permanganate. The manner of application of the chemicals ranges from dry feeding to liquid feeding and from approximate regulation to accurate determination. Likewise the amount of chemical added varies according to the water and to the operator. Alum doseages range from one-half grain per gallon to nearly 3 grains; while aluminate ranges from three-eighths pound to 1 pound per 1,000 gallons. Insufficient treatment produces a poor floc and results in an extra strain on the filters, while overtreatment incurs extra expense and may leave residual aluminum in solution, causing later trouble.

Corrosion may be met by maintaining continuous flow of water through the pipes; the future trend may be toward more extensive use of special pipe.

Two General Types of Plants

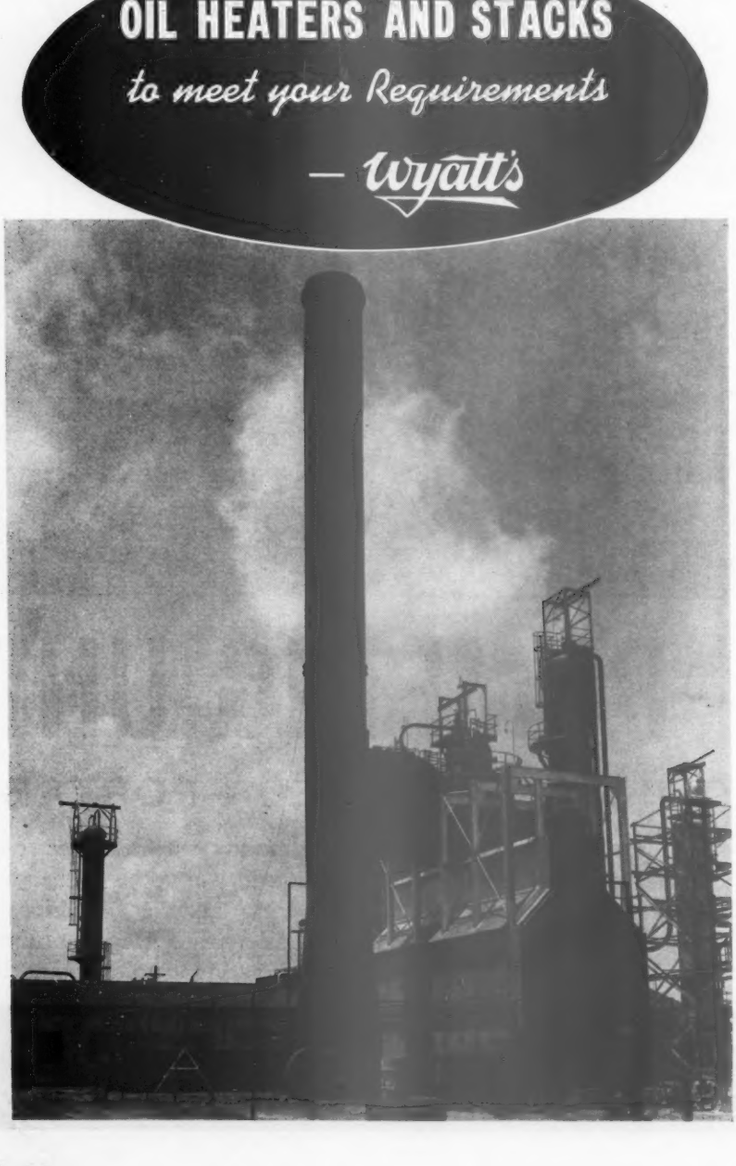
There are two general types of plants. In one, the accelator type, the emphasis is on the recirculation of sludge to secure results. In the other, results depend on chemicals to form a good floc which entraps the suspended matter. Two examples will indicate how the chemical type copes with these problems. These problems were specifically handled by one operator, using subsurface water, in the following manner.

Using alum, his costs ran $1 per 100,000 gallons. At times during the winter he also used lime, but he felt that by not using lime his water varied less from day to day. His raw water had a PH of 8.6 and was highly supersaturated. His supersaturation was usually reduced to below 10 p.p.m. as $CaCO_3$ and a further reduction occurred in the clear water tank. The pH of the treated water was 8.2 to 8.3. H_2S present in the raw water was successfully removed by aeration, as was iron, and the residual aluminum was kept under .2 p.p.m. The chemicals were accurately dosed by means of a liquid feeder and the filters were back washed daily.

Another operator using river water handled his problem in the following manner. Having less retention time (around three hours) and needing a quick-acting floculating agent, he used 6 tenths pound of liquid sodium aluminate per 1,000 gallons and 5 tenths grain per gallon of alum solution. To control algae he employed chlorite in a concentration of 2.5 p.p.m. calculated as chlorine, leaving a residual of 2 tenths p.p.m. of chlorine. Back washing each filter once per eight hours kept the filters free from incrustation. In two other cases where water used comes from city mains conditioning has been reduced to simple filtration; one uses Spavinaw water and the other uses water from the city of Garnett.

Views Differ

The writer's views on the conditioning of water depart somewhat from the conventional. The basic difference is that he feels a minimum change in pH and mineral constituents is best; to alter least is to leave the water in its most natural stable condition. Therefore, instead of using present inorganic agents which change the pH and alter the mineral ratios, his method is to attack the problem by seeking compounds that would not affect the pH and would only alter the mineral content by removing suspended material and by favorably decreasing the calcium, magnesium, and iron which in small quantities combine to form the floculating agent. Organic compounds seem to offer the widest and most ideal solution. The economic considerations further limit the field. The chemistry involved is to find a large molecule, water soluble, whose salts of calcium, magnesium, and iron are insoluble and by their nature are active coagulents. Tannin-bearing materials, both the catechol and pyrogallol type, were found to have the desired properties to a varying degree. Those tried were cutch, hemlock, mangrove, myrobalan, quebracho, and wattle-bark, and the writer believes other similar compounds would also work. These compounds have been used in water treatment for engines largely to prevent corrosion by formation of iron tannates and to maintain in suspension scale-forming matter; however, they have not been used as a floculating agent prior to filtration and their use is novel in water flooding. In spite of doubts as to the general applicability of this idea, the writer is confident of its promise. In case of brines, compounds such as quebracho coagulate effectively without the need of any adjunct; however, with surface waters these tannin compounds alone were ineffective but with alum were found to be superior to alum without the tannins. This combination was also superior, as measured by jar tests, to other existing coagulating agents. Comparative tests consisted of treating samples with varying doseages, of the same and different compounds, and agitating with an electric stirrer capable of handling four samples at once. The stirring was maintained around 100 r.p.m. First the speed of coagulation and the size of the floc were noted and after agitation of 30 minutes the rate of settling was observed. The conclusions drawn were that the organic compounds applied in ratio of twelve one-hundredths pound tannin per 1,000 gallons were superior in case of brines and, together with alum, were equal if not better in the case of surface waters. Better results were obtained in dilute than in a concentrated solution. To increase dispersion, the tannin compounds, when concentrated, were put in alkaline solutions of sodium hydroxide and ammonium hydroxide. Having realized that jar tests were no criteria for field experience, the above idea was tried as an experiment in plant practice with encouraging results. Although the test was not conclusive, due to insufficient time and to inadequate means of feeding, still these compounds show possibilities for future use in the treatment of water for underground injection.



PROBLEMS FROM READERS

Edited by L. G. E. Bignell

Pressure Maintenance

Before the advent of the petroleum engineer the term "rock pressure" was commonly used to indicate the pressure registered on a gauge placed at well head. When it was customary to permit a well to flow to capacity and the pressure exerted by such flow had to be controlled by well head fittings the production superintendent would state that the well's "rock pressure" was so many pounds and this was also indicative of the well's capacity to produce oil. It seemed to be generally accepted that this pressure was created by the weight of the mass of sediments resting upon the producing formation and in general this assumption was true although it is probable that the hydrostatic pressure of the water in the formation played an important part in building up formation pressure. In those days the value of gas as a form of energy to assist in moving the oil to the well bore was not appreciated and it was not uncommon practice to "blow a well into production."

As engineers came to study underground conditions in gas and oil pools and geologists assisted by outlining the occurrence of underground reservoirs and the mode of origin and accumulation of gas and oil it has been realized that nature did a much better job than man can ever expect to do in supplying energy along with the gas and oil to aid in its recovery. Because of the fact that all oil pools have come to a state of equilibrium through geologic time and in general the gas, oil and water has separated into strata one above the other and have been maintained in those positions through long periods of time it is now known that it is best to conserve the natural energy stored in the reservoir and use it in assisting to recover the oil. Gas-oil ratio or the relation of the volume of gas to the quantity of oil produced varies with underground conditions but the petroleum engineer is able to prescribe the best gas-oil ratio for any pool in order that the limited supply of gas may be used to aid in recovering the greatest possible volume of oil.

In addition to the gas energy it is now known water in the formation adjacent to the oil can be controlled to aid in forcing the oil toward the well and in flushing the pores in the reservoir rock of oil that would otherwise be difficult to recover. Where this bottom or edge water is under relatively high hydrostatic head it will furnish a great amount of energy to aid in moving the oil but it is necessary to correlate the rate of withdrawal of the gas and oil with the speed of movement of the water through the pore spaces in the rock in order that this movement may be controlled and good results secured. If the gas and oil is removed from the reservoir at too rapid a rate the water will not be able to move in fast enough to properly flush the pores and there will be created a zone of partial void in the immediate vicinity of the well bore with oil and water filling the pore spaces away from the well. As this zone of partial void around the well bore increases in area the hydrostatic pressure tends to force the water through or around the oil and in this manner some of the oil may be cut off from escape to the well or it may become emulsified and difficult to handle after reaching the surface.

Inasmuch as it is now recognized that the natural conditions under which the gas, oil and water were accumulated in any reservoir are the best possible conditions for that particular oil pool it has become an ever increasing practice to try to maintain those natural conditions as long as possible. This new conception of gas and oil production has been called "pressure maintenance" to differentiate from recharging a formation with water or gas after formation energy has been largely dissipated. As one engineer has aptly put it, "Pressure maintenance plans to shut the stable door before the energy horses are stolen, repressurring is an attempt to again return the energy horses to their original abode."

To aid in maintaining original formation pressures and conditions within the reservoir as near as possible to those created by nature it is now good practice to compress the dry natural gas after the gasoline has been extracted to pressures high enough to permit it to be forced into the pore spaces within the formation and in this manner assist in maintaining original pressures. In some instances the formation pressures, the "rock pressures" of former days, are as high as 3,500 pounds per square inch but it is economically feasible to recompress the dry gas to pressures high enough to force it into the void spaces in the formation from which gas and oil has been withdrawn by producing the wells. In one instance the gas is compressed to about 2,700 pounds per square inch before it is admitted to the well head connections and as this gas compressed to this pressure weighs about 16 pounds per cubic foot and the well is over 8,000 feet in depth the weight of this gas column added to the compressor pressure will more than equal the formation pressure and in this manner the reservoir energy is conserved. This returned gas will accumulate and the edge and bottom water will move into the pore spaces vacated by the oil in an orderly manner until it is estimated 90 per cent of the recoverable oil will be produced. Then the reservoir will be filled with gas in the upper part and water beneath and this gas can be produced and sold at a profit.

In high pressure reservoirs in which the hydrocarbons exist in both fluid and vaporous phase it is necessary formation pressures be maintained. This problem has been studied by engineers of the Bureau of Mines and a report issued.

Flow Characteristics, Composition and Some Liquid-Phase Properties of Hydrocarbon Fluids From a "Combination" Well

The above title has been assigned to Report of Investigations No. 3402 issued in May, 1938, by the U. S. Bureau of Mines and prepared by C. K. Eilerts and M. A. Schellhardt of the experimental station at Bartlesville, Okla. This report covers the preliminary work done at a well in Texas in an unnamed field and while not conclusive is of much interest to the phycisist and petroleug engineer because some facts have been established indicating reservoir and petroleum conditions and it is hoped further work can be carried on in the near future to expand upon the knowledge gained.

The well used for the investigation had a string of 7-inch casing set at 7,352 feet and 7,512 feet of 2½-inch tubing was used for a flow string. The well produced through the christmastree or control head into a high-pressure separator. The imposed operating conditions involved changes in pressure at the face of the productive zone from 3,177 pounds per square inch to an operating pressure of 2,381 pounds per square inch at time of maximum flow rate. In the first separator the pressures were reduced to between 490 and 950 pounds and the gas passed to a second or low-pressure separator operated at gauge pressures varying from 242 to 255 pounds per square inch. In the high-pressure trap the temperatures ranged from 50 to 70° F. and in the low-pressure separator from 36 to 54° F.

With this equipment at the well head and a laboratory close at hand a series of tests were run on this well and the results are fully recorded in the R. I. 3402. They are too much in detail to permit reporting here but the summary and conclusions are quoted in full.

"The present report is limited to preliminary results of field and laboratory tests one one well in one field; therefore, general statements and conclusions regardiing high-pressure "combination" wells are not justified. Although the results of the present study are subject to verification by additional field and laboratory work, it is believed the conclusions presented apply reliably to the well that was studied.

"Ratos of gas to hydrocarbon liquid, pressures, and temperatures within the well and the surface-recovery system and other well-flow data were observed over a considerable range of operating conditions. Gas and liquid samples from the high-pressure separator and liquid samples from the well bore and stock tank were obtained for laboratory study to determine fluid-phase relations in the reservoir and recovery system. Operating conditions in the well were exceptionally favorable for a study of the well's productivity and to sampling procedure. The laboratory methods employed in treatment of the samples taken were designed particularly to give information concerning the phases of the hydrocarbon fluid in the reservoir.

"The results of the field and laboratory work described indicate the following conclusions.

"1. Comparisons of ratios of gas to hydrocarbon liquid obtained under different rates of fluid recovery did not indicate conclusively the phase relations in the reservoir.

"2. Pressure data on the flowing well showed that liquid and gas were present simultaneously in the well bore.

"3. The composition of the subsurface liquid sample, which has a saturation pressure within 200 pounds per square inch of formation pressure, as compared with the composition of surface liquid samples having much lower saturation pressures, does not indicate that the liquid likely would be formed entirely by condensation as a result of the 200 pounds per square inch decrease in pressure.

"4. Restoration of the saturation pressure of the subsurface sample to the value of the formation pressure by addition of the amount of gas likely to be liberated by a drop of pressure of 200 pounds per square inch did not prevent it from remaining in the liquid phase at formation pressure and temperature. It is concluded, therefore, that part of the liquid recovered from the well was present in the reservoir in the liquid phase, and the remainder was formed during the process of production by condensation of heavy components from the original reservoir vapor phase."

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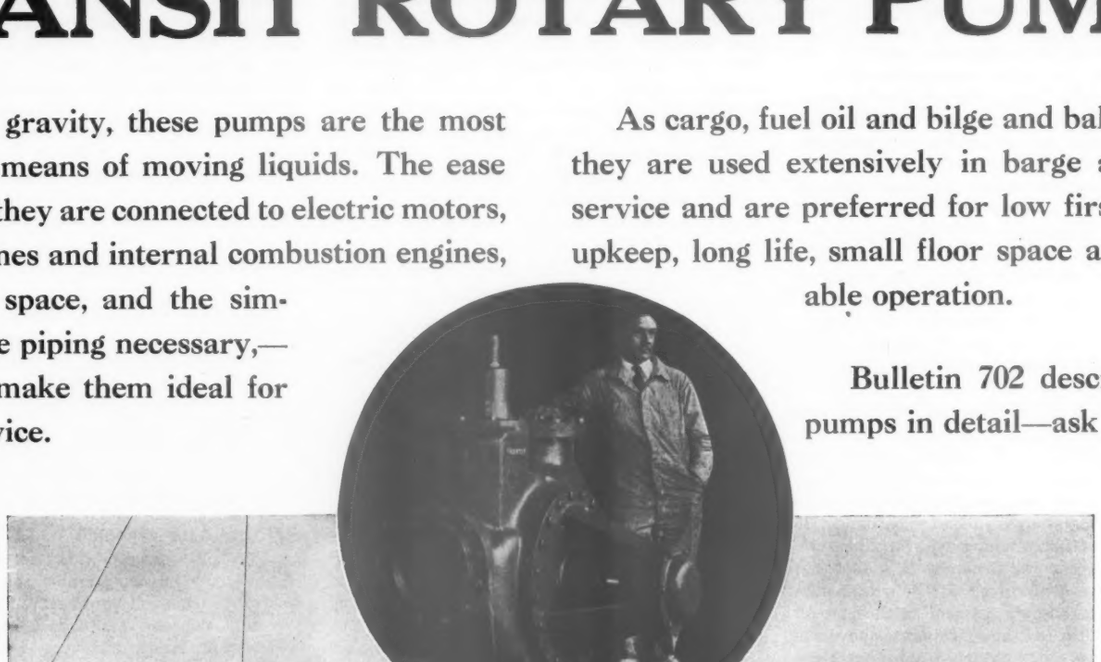
Bulletin 702 describes these pumps in detail—ask for it.



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QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Distillation Flask for Inspection of Kerosene and Distillate

Which should be used the 100 or 125 cc. flask for distilling kerosene and No. 1 distillate? The No. 1 distillate comes off after kerosene, having around 400 initial and 400 endpoint.—H. J. E.

The title of the standard distillation test is Distillation of Gasoline, Naphtha, Kerosene and Similar Petroleum Products. The details of this method include a distillation flask, quite accurately described, which has a capacity of about 125 cc. or ml., but is known as a 100 ml. flask because that is the quantity of the sample used when making a test.

The title includes kerosene so there can be no other method of test employed when inspecting kerosene. A distillate consisting of the fraction after taking off kerosene, is usually of the gas oil range, but one having an initial of 400° F. and an endpoint of 600° F. suggests that it may be refined and finished as kerosene. Considering these facts, also the part of the title of the distillation test, "Similar Petroleum Products," it is clear that the standard test should be used, when inspecting, and therefore the 100 ml. flask

It should be noted that the distillation test of the A.S.T.M., D 86-35, is founded on arbitrary procedure, the details being given in precise terms, and any modification must result in failure to obtain the accuracy desired and to check with other operators.

The tolerance permitted is: "With proper care and attention to detail, duplicate results obtained for initial boiling point and endpoint, respectively, should not differ from each other by more than 6° F." and for volumes, not more than 2 ml.

Prices for Crude Oil and Refined Products in Different Markets

The writer has, from time to time, endeavored to make a comparison of crude oil and refined products prices in the various sections of the country, using as a basis "Markets and Prices" of The Oil and Gas Journal. Difficulty was experienced in attempting to correlate grades of gas oil and fuel oil. The methods in the Mid-Continent, California and the Gulf Coast differ. Would you be so kind as to advise means for identifying the various grades and markets?—R. G. P.

The most important factors that have to do with values are quality and demand. Many things enter into a complete analysis of these two items. Such an analysis cannot be undertaken in the space available here. As a general rule, when quality is fixed, supply and demand control, but there are other items that have to be included. Transportation expense is always important.

The high price of coal has a special bearing in California markets, where oil is so extensively used in the industrial plants, for domestic heating, navigation, railroads and other purposes. In the East Coast district coal is cheap enough to compete with oil. Gas oil, and to some extent heavy fuel oil, is in demand for cracking so the price of distillate fuels must be attractive to the refiner to cause him to release any part of the available supply.

Identification of grades depends entirely upon the basis. Oils from different fields and their products are not identical. If the specifications are brief it may be easy, such as gravity or octane rating of gasoline, but if they are extensive to include, say sulfur, carbon residue, viscosity index, with numerous other properties, that apply to the distillation of the gas oil and lubricating oil range, it becomes a difficult and expensive undertaking. Comparisons of the prices of crude oils and any of the petroleum products must always take into consideration the quality of the material in addition to the local market conditions.

Simple Properties May Indicate Base of a Crude Oil

Is there a simple test that I can give crude oil to determine if it is asphalt or paraffin base?—H. H.

The only accurate way to determine the base of a crude oil is by actual test or analysis by which paraffin wax or asphalt or both combined may be separated from the oil by distillation or evaporation. This residue may be identified by means of the characteristic properties.

An indication of the base of a crude oil may be had from the simple properties, including odor, color, gravity and residue on evaporation. Many paraffin base oils have a sweet odor as compared with the strong odor, often that of hydrogen sulfide, of the asphaltic oils. The color of a paraffinic oil is usually green to amber and straw color, whereas the asphaltic oils are usually black or brownish black. The gravity of the paraffin base oil is liable to be high, that is 30° A.P.I. or higher and the asphalt base oil lower than 30°, very often between 12° and 20°.

The residue remaining after an oil is evaporated is always a reliable indication; a waxy residue from the paraffinic oils and a black asphaltic residue from the asphalt base oils. The mixed base oils, those containing both paraffin and asphalt, may be identified by the results of the distillation, especially the nature of the lubricating distillate, such as the high pourpoint for the paraffin portion and the nature of the residue for the presence of asphaltic substances.

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Lard Oil

Use—Manufacture of candles, greases, lubricating oils, and signal oils.

Form—Colorless to brownish liquid with characteristic odor.

Specific gravity, approx.—0.915.
Melting point—92-101° F.
Saponification No.—195-196.
Iodine No.—56-74.
Solubility—Organic solvents.

LIMITATIONS FOR NO. 1 LARD OIL

Acidity, as oleic, max., per cent	7
Saponification No., min.	190
Color, max., A.S.T.M.	3
Solidification point, max., °F.	40
Odor	non-rancid

Note: Several grades available, designated, Extra and Prime Winter, (edible, and inedible), Off Prime, No. 1 and No. 2.

Summary of Facts About Alcohol-Gasoline Blends

Considerable information has appeared relating to gasoline-alcohol blends, much of which is confusing. Could you give us a brief statement covering the situation as to the use of these blends for motor fuel?—S. D. N.

The American Petroleum Institute Committee on Motor Fuels has studied the technical phases of alcohol and gasoline blends for motor fuel. They have recently published a pamphlet on the subject from which these extracts have been made.

Theoretical or maximum potential differences in mileage between gasolines and blends containing, say, 10 per cent alcohol are 5 per cent or less. On the other hand, mileage increases of 10 to 15 per cent may be encountered with the same car and fuel driven with 20 starts per 100 miles instead of 40. At 50 miles per hour differences in speed hardly noticeable on the speedometer may mean a difference of 2 per cent in fuel consumption. Ordinary differences in tires and their condition may make a difference of 2 to 3 per cent in fuel consumption; heading into a 15-mile per hour wind instead of running away from it may make a difference of 10 to 15 per cent in fuel consumption.

Alcohol contains approximately only 65 per cent as much energy per gallon as does gasoline. Hence the conclusion must be that an automobile using alcohol blend will not go as far on each gallon as would the same car on 1 gallon of gasoline, conditions and standards of performance being identical.

Pure alcohol, having an octane number of about 98, will not knock when used in the present-day automobile engine. Alcohol-gasoline blends should have less knock tendency than the gasoline from which the blends are made. The use of alcohol for this purpose is justified only when it wins out in competition with the other substances having this property. Actually 2/100 per cent (.02%) of tetraethyl lead will give about the same improvement as 10 per cent of alcohol, at a cost per gallon of one-fifth cent as compared to at least 2 cents.

A comparison of the properties of the blends with those of the gasoline from which the blends are made reveals that the blends will show:

- Without engine adjustments, little change in mileage but diminished performance.
- After engine adjustment, similar performance but definitely reduced mileage.
- A very slight increase in maximum power output but at the cost of considerably increased fuel consumption.
- Less tendency to engine knock, at greater cost than with other antiknock agents.
- About the same starting quality but more danger of vapor lock.
- No important difference in engine maintenance costs.
- No change in the hazard from carbon monoxide in exhaust gas.
- Substantial possibility of trouble from separation in tanks and carburetors by water.

Alcohol-gasoline mixtures are in most respects somewhat inferior to straight gasoline. Considered objectively, on the basis of their actual merit, they are certainly not worth a higher price than would be paid for gasoline of comparable octane rating, although their cost must be higher.

How You Can Get a New Picture from Your Old Seismograph Records . . .

For the Price of a little Entertainment!

A CLIENT who had another seismograph contractor do some work several years ago recently asked us to look over his old records and give him a new and fresh interpretation. Almost every month we are learning something new about our work, and maps made even a year or so ago from good reflection records may be subject to important revision today in the light of a better understanding of our science and more complete geological knowledge.

This client had a valuable idea. Data given only casual consideration at the time his survey was made proved to be important in the light of today's knowledge. And a conclusion thought to be of only negative value took on unsuspected importance. In fact, this client got a fresh and up-to-date report and set of maps from his old records the cost of which had been written off several years ago.

Our Review Interpretation Department, headed by Mr. T. I. Harkins, offers this service at a reasonable per day rate. We shall be glad to furnish full information to those interested.

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FIELD OPERATIONS

Summarizing the Week's Developments

KANSAS—The Ainsworth pool, Barton County, was extended three-fourths mile eastward and the Ritz-Canton field, McPherson County, was extended one-fourth mile westward. A new producing area for Barton County was assured by an outpost near Ellinwood. Four wildcat pool openers were completed in section 8-18-10w, Rice County; section 10-28-7, Butler County; section 3-17-13w, Barton County, and section 29-13-14w, Russell County.

OKLAHOMA—Opening of a Wilcox pool on the Nemaha Ridge near Britton, Oklahoma County, was indicated when a wildcat in section 4-12-3w, cored saturated sand. The second deep test to be drilled in the Milroy pool was given up as a bad job when it failed to produce after plugging back from 8,280 feet. It is in Carter County and offsets a deep producer in the Stephens County sector of the pool.

TEXAS—Deep sand well, 4 miles east of the Hull-Silk pool in Archer County, promises to open a new pool. The K.M.A. field got its first major extension in several weeks. Several important wildcats and pool extensions in West Texas are showing possibilities of commercial production. In Refugio County the Woodsboro wildcat was killed pending further testing of the sands. It flowed 30 bbls. of distillate but may make an oil well at a lower depth.

MICHIGAN—A heavy drilling play has begun around the new strikes in Clare and Allegan counties, 100 miles apart. Permits were issued for five tests in Clare County and five in Allegan County with other tests going down in Salem and Monterey townships adjoining Overisel Township where the latest strike was made.

LOUISIANA—A new field is reported in the making on Hester dome, St. James Parish, Louisiana, first production in the parish. Another blowout occurred in the Zwolle area of Sabine Parish where a test was projected to the new deeper pay.

ARKANSAS—Cotton Valley continues the most active region. A second well was nearing completion in the Village extension in Columbia County. Shreveport's north edge discovery well was still shut in awaiting pipe line outlet.

NEW MEXICO—Northeastern Lea County held attention of operators as work was started at a wildcat in section 23-12-36, near Tatum, while another wildcat in section 22-10-37, 14 miles northeast of that town, was abandoned when sulfur water intruded at 5,077 feet.

CALIFORNIA—State Supreme Court decision giving the city of Long Beach exclusive ownership of tidelands may apply also to Huntington Beach. The state claim to ownership was denied. Seven new wells added 12,528 bbls. to Wilmington field production. Deep zone developments in the Lomita area of the Torrance field added five completions and 1,800 bbls. daily.

ILLINOIS—A 2-mile extension of the pool recently opened in section 5-1n-2e, east of Centralia in Marion County, was indicated when saturated Benoist sand was recovered at an outpost in section 9-1n-2e. A new pool was opened in section 33-2s-7e, Wayne County. A wildcat near the Brown pool, east of Centralia, was completed as a small producer.

Completions in All Fields

(Week Ending July 30, 1938)

	Oil	Gas	Dry	Total	1938 total comp. to date	1937 total comp. to date
N. Y., Pa. and W. Va.	63	8	8	79	2,261	2,547
Ohio	7	4	8	19	539	676
Indiana	1	1	1	3	45	49
Kentucky	11	4	5	20	495	295
Illinois	30	1	10	41	740	51
Michigan	7	0	9	16	473	491
Kansas	20	1	12	33	967	1,457
Oklahoma	10	5	7	22	1,015	1,677
Texas:						
North Central Texas	59	1	20	80	1,826	1,684
West Texas	23	0	2	25	1,179	1,564
Texas Panhandle	2	2	0	4	352	412
East Texas	26	0	0	26	1,225	1,295
East Central Texas	5	0	0	5	211	408
East Texas Border	6	0	0	6	93	232
Gulf Coast Texas	30	1	11	42	755	865
Southwest Texas	20	1	13	34	1,182	1,916
Total Texas	171	5	46	222	6,823	8,376
North Louisiana	7	5	4	16	368	349
Gulf Coast Louisiana	8	1	3	12	268	270
Total Louisiana	15	6	7	28	636	619
Arkansas	4	0	0	4	138	55
Montana	4	0	0	4	53	122
Wyoming	3	0	2	5	98	54
Colorado	0	0	0	0	6	6
New Mexico	7	0	1	8	317	328
Utah	0	0	0	0	1	5
California	24	0	8	32	778	649
Total United States	377	35	124	536	15,385	17,457
Total previous week	379	41	113	533		
Difference	2	6	11	3		

Outstanding Fields--Highlights

(Week Ending July 30, 1938)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	59	118	26	20,939	637	16,423
Hastings	1	10	4	1,710	564	19,995
Saxet	2	13	1	138	608	33,168
Benavides	1	11	3	344	219	11,995
East Texas	32	91	26	1,187	25,442	439,585
Ector County	20	80	7	7,348	1,177	45,245
Winkler County	8	6	4	5,632	1,676	40,596
OKLAHOMA						
St. Louis	6	27	1	1,248	663	17,750
Oklahoma City	3	10	0	0	1,088	101,675
KANSAS						
Barton County	4	16	5	3,801	335	9,730
Stafford County	2	15	4	5,696	154	5,025
Rice County	2	18	1	1,118	1,183	26,495
Russell County	3	18	3	2,456	1,105	22,930
NEW MEXICO						
Lea County	16	80	6	1,168	1,793	94,040
LA-ARK-TEX						
Rodessa, La-Ark-Tex	3	13	6	2,360	1,015	74,665
Cotton Valley (deep)	4	14	3	1,940	80	12,110
Lisbon, La.	2	15	3	1,935	248	10,560
Schuler, Ark.	3	16	3	2,010	75	23,400
MICHIGAN						
Buckeye	3	9	3	742	428	19,214
ILLINOIS						
Central Illinois	22	220	30	4,740	718	41,298
CALIFORNIA						
Wilmington	4	26	7	12,528	519	91,750
KENTUCKY						
Birk City	4	16	4	1,420	28	2,287

Eastern Field Report

By STAFF CORRESPONDENT

West Virginia Outside Deep Test Dry in Oriskany Sand

PITTSBURGH, Pa., Aug. 1.—None of the deep tests in Southwest Pennsylvania found any production during the week but are still drilling. In West Virginia, an outside deep test was drilled through the Oriskany sand and it was dry. It was the test of W. H. Bickel on his own property in Lubeck district, Wood County, and had topped the Oriskany sand at 4,426 feet which continued hard, without showing either oil or gas through the entire formation. It was on the west side of the Parkersburg syncline and northwest of a prior test by this operator on the Reese Blizzard farm in Tygart district which had a showing of oil and gas in the top of the sand.

Twenty-four operations were completed in the lower Eastern fields of which 10 were dry holes, 5 gas wells, and 9 producers with an initial daily production of 160 bbls. Most of the new production was in Southeast Ohio.

SOUTHEAST OHIO

The best producer was the second test of Pure Oil Co. on the E. E. Blue farm in section 10, Jackson Township, Knox County. It was drilled in the Clinton sand to 3,122 feet and produced 75 bbls. the first day after shot. The sand was topped at 3,072 feet. In the SW quarter of section 4, Union Township, Preston Oil Co. completed a second test on the Letha and Rose Siedle farm in the same formation at 2,830 feet. It produced 50 bbls. the first day after shot.

In Athens County, Ross, Weimer and Ross drilled No. 3 A. P. Ackley near Pratts Fork in section 19, Lodi Township, through the Mitchell sand to 400 feet and it was dry with no showing of sand.

In Knox County, C. A. Davis and others completed a test on the Artie Jones farm, section 10, Jackson Township, in the Berea sand at 902 feet gauging 70,000 feet.

In Licking County, C. R. Settles and others completed a second test on the Eva Robinson farm in section 15, Mary Ann Township, in the Berea sand at 756 feet, showing for a 1-bbl. pumper.

In Medina County, Henry Schuster drilled a test on the Henry and Joseph Schuster farm in Lafayette Township for a gas well for private use. It was completed in the Berea grit at 587 feet with 18,000 feet a day and 2 bbls. of oil.

In Muskingum County, Atha Oil Co. completed No. 8 D. M. Dailey in the SE quarter of section 15, Union Township, in the Clinton sand at 3,193 feet. It will make a 6-bbl. pumper without shot.

In Noble County, Benton McKee and others drilled on the V. M. Ralph farm in the SE quarter of section 19, Noble Township, through the Berea grit to 1,427 feet and there was no showing of oil or gas.

In Perry County, H. L. Altier & Sons completed No. 18 Thomas and Mary Monahan in the NW quarter of section 33, Pleasant Township, in the Berea sand at 1,135 feet. It produced 3 bbls. the first day and after shot it made 10 bbls.

SOUTHWEST PENNSYLVANIA

The deep rotary test of Peoples Natural Gas Co. on the John S. Marshall farm on the Grapeville anticline in Penn Township, Westmoreland County, is drilling at 7,645 feet or 202 feet below the top of the Onondaga and 57 feet below the top of the Oriskany, tentatively placed at 7,588 feet. The test is being deepened before making a test with the mud and water out of the hole.

In Allegheny County, the deep rotary test of South Penn Oil Co. and others on the Fred Backhaus farm on the Kellersburg anticline in West Deer Township is drilling at 6,880 feet or 519 feet below the top of the Onondaga and no solid Oriskany formation having been reported.

On Chestnut Ridge in Wharton Township, Fayette County, the test of the Greensboro Gas Co. on the J. R. Thompson farm is drilling at 7,852 feet or 492 feet in the Onondaga with the samples still showing sand grains which in several strata were so numerous as to suggest several Oriskany sand stringers had been drilled through. Southwest of this test, Wasson & Co. are drilling at 5,150 feet on the J. H. Sorg farm.

South along Chestnut Ridge about 1.1 miles north of the state line and above Wymps Gap, the L. J. Houze Convex Glass Co. is drilling at 6,300 feet on the Paul Dunham farm.

In Beaver County, John T. Galey and others have reached 4,050 feet on the Eliza Allen Heirs in South Beaver Township.

Two wells were completed in Southwest Pennsylvania. In Springhill Township, Greene County, James H. Null and others deepened No. 1 Null Heirs from the Fifth sand about 100 feet to the Gordon Stray sand and it is now good for 5 bbls. a day and about 250,000 feet of gas.

In Hanover Township, Washington County, Coulter and Duncan completed the test on the John Dennis farm at 1,881 feet, the Hundred Foot sand. There was an oil show at 1,863-76 feet good for 1-bbl. a day.

In Amwell Township, Washington County, F. K. Fawcett and others are still swabbing oil on the L. Bronder farm test, showing for a very fair producer. The hole will be deepened a few feet or until the second pay of the Fifth sand is reached. The present depth is 2,998 feet.

In South Strabane Township, Washington County, Penn Ohio Oil & Gas Co. is drilling at 1,947 feet in the W. E. Davis test. In Morris Township, Union Gasoline & Oil Corp. has rigged up for No. 816 G. L. Craft. In Connequenessing Township, Butler County, Reiber and McKnight are down 1,000 feet on the Reiber farm.

Greene County

In Greene Township, Greene County, Equitable Gas Co. is rigging up to deepen No. 1 W. E. Blaker starting at 2,096 feet. In Center Township, this company will deepen the G. M. Kuhn test from 2,519 feet. In Franklin Township, the company is deepening No. 1 W. L. Jacobs and has reached 2,620 feet and 2,300 feet on the Thorp farm. In Washington Township, this company is drilling at 345 feet in the John Huffman test.

In Aleppo Township, Burleigh Wright has a rig standing on the William McVey farm. Cochran and others cemented and shut down at 1,744 feet in No. 4 John Strope.

In Richhill Township, Penn Ohio Oil & Gas Co. is drilling at 485 feet on the Ealy-Conklin farm. Furman Nuss reached 2,941 feet in the Charles Swart test without showing. Smith McCracken reran the 6⅝-inch casing and shut down at 3,085 feet.

In Center Township, Charles Mong and others are drilling at 2,242 feet in No. 3 Jesse L. Metz. J. B. Orndoff has the gas in the line from No. 2 G. M. Scott. In Greene Township, Carnegie Natural Gas Co. deepened No. 2 Morris to 3,330 feet and found no pay below the Injun sand. The lower sands are being plugged with the Injun sand still producing some gas.

WEST VIRGINIA

One producer was completed in West Virginia. In Cabin Creek district, Kanawha County, Pure Oil Co. completed No. 287 Williams Coal Co. at 3,267 feet with 10 bbls. from the Berea sand.

In Lincoln County, A. F. Black completed a test on the Jacob Jeffery (surface) D. E. Wilkerson (mineral) in Carroll district as a gas well at 3,487 feet.

In Calhoun County, Hope Natural Gas Co. abandoned No. 1 E. R. Fluharty in Center district which had been an Injun sand well at 2,065 feet.

In Gilmer County, Pittsburgh & West Virginia Gas Co. completed No. 1 H. C. Simmons in Troy district at 1,746 feet gauging 490,000 feet. In Glenville district, this company drilled No. 7,655 Okey Heeter through the sand to the slate at 2,597 feet and it was dry.

In Pleasants County, H. F. Simonton and others completed a second test on the C. P. and D. C. Simonton farm in Lafayette district at 2,060 feet, the Injun sand, gauging 500,000 feet from the Salt and Maxton sands. In Union district, W. F. Carmichael drilled a test on the Earl Wells farm through the Cow Run sand to 830 feet and it was dry.

In Ritchie County, Buck Run Oil Co. drilled a second test on the Henry C. Brunner farm in Grant district through the Maxton sand to 1,640 feet with a slight showing in that formation. In Murphy district, Hope Natural Gas Co. deepened No. 6,412 D. M. V. Phillips, a former Maxton sand well, to 2,105 feet and plugged it back to 1,904 feet to continue producing the Maxton sand.

In Wetzel County, a new shallow gas play is starting. With completion over a month ago of the test by Hazlett Brothers and Conley on the Lane Mason farm in Proctor district, gauging 500,000 feet from the Cow Run sand, new work was started. A second completion on this farm by these operators is reported this week. It was drilled to 558 feet, the Cow Run sand and gauges 400,000 feet.

Oriskany Gas Field

No new production was reported from the Oriskany gas pools in Kanawha County. In Malden district, North Eight Producing Co. on the L. E. and R. Belcher farm reached 4,903 feet and abandoned the test.

Deep Tests

In Pleasants County, Columbian Carbon Co. lost a string of tools at 3,650 feet in the deep test on the Giles Hammett Heirs farm in Grant district. Later they were recovered and it is drilling at 3,843 feet. Oil is still coming from the shales.

In Jackson County, Joe Rubin is casing the test on the W. J. Brown farm about a mile north of Ravenswood on the Ohio River, showing about 180,000 feet of gas from the first 6 inches of the Oriskany sand.

In Washington district, Jackson County, United Carbon Co. has reached 3,942 feet on the lower end of the Elizabeth Ward Perkins farm.

New Work

In Cabell County, DeJarnette Gas Co. will deepen No. 3 J. H. DeJarnette on Tyler Creek in McComas district. On Lisle Branch, Taylor Gas Co. has a location for a second test on the W. H. Holton farm. In Grant district on Porter Branch of Trace Creek, R. H. Adkins, Trustee has a location on the M. A. and Emma Wheeler farm.

In Doddridge County, Hope Natural Gas Co. has started drilling on the G. W. Farr farm in West Union district. In Central district on Clay Lick Run, James Prunty has a location on the L. R. Boyce farm.

In Mason County, Interstate Utilities Co. has a location on the Lizzie Raybold farm in Waggoner district, elevation 606 feet. In Pleasants County, W. E. Carmichael has a location for a second test on the Earl Wells farm.

In Putnam County, J. W. Smith has a location on the J. H. Payne Heirs farm in Scott district. Smith Oil & Gas Co. has a location on the Grace M. Taylor farm and material on the A. B. Griffith farm.

In Ritchie County, South Penn Oil Co. will deepen No. 13 Sarah J. Lemon in Murphy district. In Roane County, S. W. Douglas will drill No. 61 Fred Goff in Spencer district. In Woods County, Dr. W. R. Yeager and H. V. Cunningham have a location on the Katherine Cunningham farm in Walker district.

Central West

By STAFF CORRESPONDENT

Extend New Pool in Marion, Open Area in Wayne County

CENTRALIA, Ill., Aug. 1.—Twenty of the thirty oil wells completed in Illinois the past week were in the Centralia area of Marion and Clinton counties. The 41 total comletions of the week included 1 gas well and 10 dry holes. A new producing area was opened in Wayne County and an outpost east of the Centralia field was completed as a producer. Thirty-eight new operations were reported.

A 2-mile extension of the new area recently opened east of Centralia in section 5-1n-2e, by the Texas Co. was indicated at Mammoth Producing & Refining Co. and Helmerich & Payne No. 1 Bachman, SW SE SW section 9-1n-2e. It had saturated Benoist sand at 1,883-93 feet, and operators were preparing to test and complete. It is about 2 miles southeast of the new pool.

Completions in all Illinois areas included the following:

Clinton County

E. C. Criley No. 4 Shell, NW SE SE section 35-2n-1w, Centralia field, topped Benoist pay at 1,196 feet, total depth 1,215 feet, shot, pumped an estimated 103 bbls. of oil in 24 hours; Adams Oil & Gas Co. No. 1 Copple, SE NW SE section 35-2n-1w, Bethel sand 1,344 feet, total depth 1,374 feet, 211 bbls.; Wilson & Bird No. 1 Goesling, C W half NW SE section 35-2n-2w, wildcat, hole full of water at 1,364-70 feet, total depth, abandoned; E. N. Smith No. 1 Eidler, west end Lot 10, Block 4, Finney Heights, section 24-1n-1w, Centralia pool, Bethel sand 1,366 feet, total depth 1,380 feet, estimated 100 bbls.; O. L. Ray and others No. 2 Home B. & L., Lot 11, Block 3, Finney Heights, section 24-1n-1w, Bethel sand 1,367-84 feet, 150 bbls. American Seismograph Co. No. 1 Anna Harvey, Lot 16, Block 2, Finney Heights, section 24-1n-1w, Bethel sand 1,361-80 feet, 30 bbls.; Adams Oil & Gas Co. No 4 Rothemeyer, NE SE SE section 13-1n-1w, Bethel sand 1,345 feet, pay 1,373 feet, total depth, 80 bbls; same company's No. 2 Coe, SE section 13-1n-1w, Bethel sand 1,361-67 feet, 70 bbls.; Morris & Solomon No. 1 Fletcher, Lot 1, Block 1, Second Heights Addition, section 12-1n-1w, total depth 1,394 feet, dry and abandoned; Kimberlin No. 1 Jules, Lot 8, Block 5, Second Home Terrace Addition, section 12-1n-1w, Bethel sand 1,365-80 feet, estimated 75 bbls.; Gulf Refining Co. No. 13 South Buehler, SE SE NW section 12-1n-1w, Bethel sand 1,357-1,405 feet, 99 bbls. of oil and 85 bbls. of water; Shell Petroleum Corp. No. 1 Hanseman, NW NW SE section 1-1n-1w, Bethel sand 1,317-50 feet, 66 bbls. of oil and 16 bbls. of water.

Marion County

Somers & Egan No. 1 Lancaster, SE NW NW section 16-1n-1e, wildcat near the Brown pool and east of Centralia, had Cypress pay at 1,658-73 feet, total depth, and pumped 88 bbls. of oil in 24 hours. J. Garfield Buell No. 1 Huff, SW cor. section 14-2n-2e, wildcat location, was abandoned.

Texas Co. No. 1 Corbin, C W half W half NW NW section 5-1n-2e, in the new pool recently opened east of Centralia, topped Bethel sand at 1,664 feet, pay 1,667 feet, total depth 1,707 feet, flowed 1,074 bbls. of oil through tubing in 16 hours.

J. P. Olstrom No. 1 Tate, west end Lot 1, Block 1, A. P. Crosby Addition, section 19-1n-1e, Centralia pool, Bethel sand 1,363-77 feet, estimated 175 bbls.; Cypress Oil & Gas Co. No. 1 Sanders, Lot 9, Block 10, Jones and others Addition, section 19-1n-1e, Bethel sand 1,376-85 feet, 60 bbls.; same company's No. 1 Fiddus, Lot 8, Block 7, Jones and others Addition, section 19-1n-1e, Benoist sand 1,363 feet, total depth 1,386 feet, estimated 80 bbls.; Centralia Coal Co. No. 1 fee, Lot 3, Block 12, Jones and others Addition, section 19-1n-1e, sand 1,376-88 feet, estimated 100 bbls.; Bell Oil & Gas Co. No. 1 Home B. & L., Lot 7, Block 8, A. P. Crosby Addition, Bethel sand 1,376-85 feet, estimated 150 bbls.; Harry Rising and others No. 1 Smith, west end Lot 9, Block 82, Railroad Addition, section 18-1n-1e, Bethel sand 1,369-78 feet, estimated 75 bbls.; John Pugh No. 1 Cunningham, west end Lot 3, Block 52, original townsite, section 18-1n-1e, Bethel sand 1,374-87 feet, 20 bbls. of oil and 60 bbls. of water; Giffert Drilling Co. No. 1 Ryan, Lot 7, Block 7, original townsite, section 18-1n-1e, lost hole and temporarily abandoned at 1,370 feet; Cypress Oil & Gas Co. No. 1 Stonecipher, Lot 3, Block 76, original townsite, section 18-1n-1e, Bethel sand 1,360-80 feet, 60 bbls.; J. D. Reynolds No. 1 Holcombe, NW NW SW section 7-1n-1e, east end Lot 10, Johnson & Reeds Addition, section 7-1n-1e, Bethel sand 1,371-89 feet, estimated 120 bbls.

Fayette County

Carter Oil Co. No. 3 Dove, SW SE NW section 15-8n-3e, Beecher City area, Fayette County, Bethel sand 1,506-30 feet, 126 bbls.; Minerva Oil Co. No. 2 Tish, NW NE SE section 33-8n-3e, Bethel sand 1,577-91 feet, estimated 250 bbls.; Carter Oil Co. No. 1 Watson, NE NE SW section 33-8n-3e, Bethel sand 1,564-94 feet, pumped and flowed 450 bbls.; same company's No. 2 Wright, NW NE NW section 21-8n-3e, location temporarily abandoned; Carter Oil Co. No. 2 Brauer, NE

(Continued on Page 74)

New Wells in Birk City Range From 1,200 Bbls. Day Down to Dry Hole

OWENSBORO, Ky., Aug. 1.—Up to the close of this report 24 oil wells have been brought in on the Henderson County side of the Birk City pool and four on the Daviess County side of the field. Other wells are in the pay but not yet listed as completions.

E. L. Newton, president of the Hoosier Drilling Co., which company opened the Birk City pool, has formed the Birk City Oil Co., Inc., which will operate the Hoosier Drilling Co.'s producing properties. The company has six producing wells on the Blackwell farm good for 2,500 bbls. a day. No. 5 Blackwell is good for 1,000 bbls. a day, Mr. Newton estimates. Two wells are ready for completion, one each on its 43-acre Dempewolf tract and on its Monroe Pitt 120-acre tract, which are being operated by Aetna Oil Service, Inc., on a farm-out basis. The Aetna company, the original oil purchaser in the field, has a refinery in Louisville, which is said to be able to handle about 3,500 bbls. of crude oil daily. The Hoosier Drilling Co. will continue as an active unit and will drill wildcats on outlying properties owned by it.

In the Henderson County side of the Birk City pool, Carter Oil Co. No. 1 L. M. Mauzy, after having been acidized one day last week, is reported to have produced at the rate of 1,200 bbls. a day. It is one of the largest wells in the field. It came in early in July and pumped 1,000 bbls. a day on its completion test. Two weeks later it was given the acid treatment. It is a McClosky sand producer at a total depth of 1,920 feet, located 500 feet south of the Hoosier Drilling Co. No. 1 Blackwell, which came in in April at the rate of 1,200 bbls. a day, and opened the field. Carter Oil Co. No. 2 Francis Dempewolf west tract after having failed to show as a producer in the McClosky lime, following an acid treatment, drilled 100 feet deeper to 2,000 feet, and then plugged back to 1,270 feet where the Jones sand produce gas which the Carter will save to fuel its drilling operations. Same company No. 1 T. C. Jones, 20 acres, total depth 1,891 feet, in McClosky lime, was acidized with 3,000 gallons and swabbed 30 bbls. per hour. Aetna Oil Service Corp. No. 1 C. A. Dempewolf, 43 acres, total depth 1,899 feet, is swabbing 40 bbls. per hour. W. E. Hupp and others No. 3 Mrs. J. Gatewood, started at 400 bbls. a day after an acid treatment, total depth 1,891 feet. Thompson Drilling Co. and Imperial Oil & Gas Co. No. 1 Mrs. Beulah Gilmore, completed as a dry hole last June although it had a 4-bbl. natural production, has been cleaned out and casing cemented and will be acidized.

New work on the Henderson County side of the field includes Carter Oil Co. No. 2 C. A. Dempewolf, 43 acres, spudding; W. E. Hupp and others No. 1 K. A. Jones, 189 acres, set surface pipe; Bailey & Bond and Hayes & Fitzpatrick No. 1 Hagan, 100 acres, set surface pipe.

Across the Green River in the Daviess County side of the Birk City pool, Globe Oil Co. and others No. 1 A. R. James Estate, which extended the field a half mile northerly, was acidized with 2,400 gallons and was swabbing 15 bbls. per hour. Major Oil Co. No. 1 Mrs. Helen Harrington, south of No. 1 A. R. James well, drilled McClosky lime at 1,873-1,901 feet and is a producer, but no estimate on its potentiality was available. Jones sand gas broke through the casing, which is being repaired. The Hoosier Drilling Co. owns the 32-acre tract between the two wells on the James and Harrington farms. W. E. Hupp and others No. 1 Mrs. L. Taylor had McClosky lime at 1,855-73 feet and is estimated as a 200-bbl. well before acidizing.

New work includes Major Oil Co. No. 1 R. M. Hagan, 10 acres, rigging up; No. 2 R. N. Hagan, moving in; Major Oil Co. No. 1 Dr. T. B. Sanders, spudding. Fitzpatrick & Hayes and Bailey & Bond made a location on one of the Murray Hagan tracts about 1,000 feet west of the James farm extension well, and the Carter Oil Co. made a location on a second Hagan lease about 500 feet from the James farm producer.

The Snowden & McSweeney and W. E. Hupp test on the Lindsey Taylor tract in Birk City was drilled into the McClosky and was reported to be showing for an oil producer. It offsets the Major Oil Co. No. 1 Greer producer.

James Acos, of Evansville, Ind., and Ray Cooper and William Ralston, of Owensboro, comprising the A.C.R. Drilling Co., are drilling below 900 feet on the J. W. Duncan farm, 800 feet west of the Major Oil Co.'s Sanders community well which was due for a coring test of the McClosky. The same firm has let contract for two tests on the Newton 1-acre camp site at Birk City and expects to start another well on another tract within 30 days.

Hancock County, Easton district: White & Vickers No. 3 Uless Boling, dry hole, total depth 448 feet.

McLean County, North Livermore district: J. C. Miller, trustee, No. 13 Mrs. Fannie Foley, estimated at 40 bbls. per day from Jett sand at 748-58 feet. Island district: South Penn Oil Co. No. 6 Alma Nail, drilling at 100 feet. J. C. Miller, trustee, No. 2 J. C. Shutt, spuding in.

ALL-STEEL PUMPS—BY ABERCROMBIE

In our advertisement appearing in the July 21st issue of Oil & Gas Journal we mistakenly, but in good faith, used this picture of an Abercrombe Fluid Piston Slush Pump.

The accompanying text could be taken to mean that the fluid end of this make of pump is made of cast iron.

As a matter of fact, Abercrombie have standardized on an electric furnace alloy cast steel for the fluid end of their pumps for years.

We are taking this means of clearing up any misinterpretation that our advertisement may have caused regarding the material used in the Abercrombie pump.

PRODUCERS OF FERRO-MOLYBDENUM, CALCIUM MOLYBDATE AND MOLYBDENUM TRIOXIDE

Clima MOLY mpany

Texas and Louisiana Gulf

By NEIL WILLIAMS

New Field in the Making in St. James Parish, Louisiana

HOUSTON, Tex., Aug. 1.—A new field in the making for Coastal Louisiana, important extensions under way in various fields, and increasing drilling activity were high lights of Gulf Coast field developments during the week. Included in the new drilling activity were several important wildcats, both in Louisiana and Texas. The list of completions and new locations was the longest in many weeks.

The new field in the making was on the Hester dome, St. James Parish, where Continental Oil Co. was attempting to test its No. 1 Realty Operators. This well has a sand showing oil at 6,325-74 feet. The hole was drilled to a total depth of 7,499 feet, where drill pipe stuck. The hole was plugged back to the sand and 9⅝-inch casing cemented at 6,520 feet. Casing has been perforated at 6,348-58 feet, and screen run. This will be the first production in St. James Parish. The dome was proved several years ago by Shell Petroleum Corp. which drilled several deep tests. This is the second test by Continental.

Off the Coast

Superior Oil Co. completed its second well in its recently opened field in the Gulf of Mexico off the coast of Cameron Parish. This well, No. 2-A State, came in flowing 440 bbls. of pipe line oil daily through an 11/64-inch choke from a total depth of 5,159 feet (drillers' depth). Bottom of the hole, drilled directionally, is east of the discovery well. It is the third hole drilled, being drilled from the same surface location as No. 2 State, abandoned at 6,813 feet. That hole was plugged back to 1,200 feet and No. 2-A drilled to the sand at a point in another 20-acre unit.

North Crowley, Acadia Parish, is getting its second well in the recently opened 7,200-foot horizon with completion of Humble Oil & Refining Co. No. 3 Anton Ohlenforst under way over the week-end. This well had sand with gas odor from 7,141 to 7,177 feet, and sand showing oil at 7,177-94 feet. Seven-inch casing was cemented through the sand at 7,194 feet and then perforated at 7,189-92 feet. Except for this company's No. 3 Federal Land Bank, completed a couple of weeks ago, other production of the field is from an 8,100-foot horizon.

Grand Bay

Gulf Refining Co. has made location for its second test in the new Grand Bay field, Plaquemines Parish, Louisiana. This test, No. 2 Grand Prairie Levee, checks 660 feet west and north out of the SE cor. section 48-20s-18e, which is 1,320 feet west of the discovery well. Canal now is being dredged to the location to permit movement of drilling equipment. The discovery well, completed several weeks ago, is holding up consistently. On a late gauge it flowed 514 bbls. of pipe line oil through a five-sixteenths inch choke on a 24-hour gauge. On the gauge tubing pressure was 475 pounds and casing pressure 450 pounds.

Pure Oil Co. has made location for a second test on its Lake Arthur prospect, Cameron Parish. The first test, No. 1 Calcasieu National Bank, was abandoned the past week after drilling to 8,293 feet. The new location, No. 2 Calcasieu National Bank, is about a half mile north and slightly west of the abandoned test. It is 466 feet out of the SE cor. NW section 18-12s-4w.

Louisiana Wildcats

Other important new wildcats starting in Coastal Louisiana include Union Sulphur Co. No. 3 Miami Corp., Willow Lake area, Cameron Parish; Federal Royalty Co. No. 1 State-Calcasieu Lake, on the Calcasieu Lake dome, Cameron Parish, and Benedum & McCormick No. 1 L. P. Allen, Deep Park area, Concordia Parish. The latter, in section 35-5n-8e, is about 20 miles east of Cheneyville, and is being drilled on strength of Sparta possibilities. A rig is being moved in for the test.

The Union Sulphur Willow Lake test is about 3 miles south of his company's production in the Big Lake field. It is on the east shore of Calcasieu Lake. Piling is being driven for the location, in section 33-12s-8w. Drilling of the Calcasieu Lake dome test is delayed pending permit from the war department to build foundations in the lake.

Chambers County

On the Texas Coast, J. R. Turnbull and associates were preparing to test their No. 1 Casey, 1,200-foot westward extension test of the Cotton Lake field, Chambers County. Five and a half inch casing has been cemented in this test at 6,525 feet. This will be perforated in sand at 6,480-6,500 feet which showed considerable oil. A 20-minute drill stem test of the sand recovered 3,700 feet of pipe line oil, the test being made through a quarter-inch choke with working pressure of 110 pounds. The hole was previously drilled to 6,539 feet where the bottom 10 feet was sand with a salty taste.

Union Producing Co. over the week-end was preparing to make another test, the fifth, in its No. 1 Goodykoontz, 1½ miles northeast of production of the Fairbanks field, Harris County. Four previous tests have been made, all of which showed salt water. The sand being tested is about 500 feet below the present producing horizon of the field. Tests so far have been through perforations at 7,872-89 feet, 7,444-53 feet, 7,230-33 feet, 7,222-25 feet and 7,213-17 feet. The hole originally was drilled to a total depth of 7,617 feet in salt water sand.

Fairbanks Most Active

Production of Fairbanks, now the most active field on the Texas Coast, is being extended southward by the completion of H. E. Williams No. 1 Marietta at a total depth of 6,840 feet. Stanolind Oil & Gas Co. is moving in rig for No. 1 Fritz Look, Samuel Lewis Survey, an east extension test for the field. Its location is about 4,000 feet southeast of the Union Producing Co.'s well and about 4,400 feet due east of Amerada Petroleum Corp. and Stanolind No. 1 Foley, present easternmost producer. Nine new tests, exclusive of locations, were started in the field the past week.

Principal interest on the Texas Coast, however, was directed to the many new important wildcats being started. Heading these was Jack Frazier No. 1 Dr. S. H. Bergman, 5 miles west of Goodrich, Polk County. This test is on a 14,000-acre block recently taken by Lile and associates of Tyler, in Polk and San Jacinto counties. The block is reported to have unusually favorable possibilities. Since Mr. Frazier took over the block, more than 30 core tests ranging in depth from 700 to 1,000 feet have been drilled to outline the structure, which is about 7 miles west of the Livingston field. It is in the J. D. Thomas League.

Republic Production Co. has made location for No. 1 Sabine Tram Co., a wildcat in the North Starks prospect, Newton County. It is on the west bank of the Sabine River (Louisiana state line), about 15 miles north of Orange, Orange County, and in the Isaac Garner Survey. Derrick is being built. A 9,000-foot test is planned.

Chapman Minerals, Inc., is starting a Cockfield sand test in the John Conn Survey, about 3 miles west of the Neches River, in Tyler County. It is on the Angelina Lumber Co. property, and is scheduled to go at least to 4,000 feet. John Bunn, contractor, is rigging up preparatory to spudding this week.

South of the Moss Bluff dome, on the Liberty-Chambers County line, Cordy Calvin, as trustee, is rigging up for No. 1 Paul Sherman Estate, James McFaddin Survey, Chambers County, about 6 miles north of Wallisville. It will go 5,000 feet. A number of tests have been drilled on and around the Moss Bluff dome, and some production was developed several years ago, but the dome has been inactive for some time.

Another interesting test will be that started the past week by Glenn McCarthy at Pearland, Brazoria County. This test, No. 1 G. C. Sheet, is in the D. H. M. Hunter Survey. It is rigging up. Grubbs & Neville have started drilling No. 1 Houston Farms, in the Rattlesnake Mound area, southern Brazoria County, 2 miles north of a dry hole drilled several years ago by Amerada Petroleum Corp. Ohio Oil Co. is rigging up for No. 1 Cornelius, P. C. Yarbrough Survey, 1½ miles north of Markham, Matagorda County, a wildcat which will be watched closely. Drilling also got under way on Henry C. Adams No. 1 Sury, Needville area, Fort Bend County.

J. K. Dorrance has abandoned as dry his No. 1 Guethlein, O. S. York Survey, a mile south of Shell Petroleum Corp.'s lone producer at Mauritz, Jackson County. This wildcat, which cored sand showing some oil at 5,617-25 feet and 5,567-87 feet, was drilled to a total depth of 6,040 feet, where it showed salt water.

TEXAS GULF COAST

Brazoria County

Hastings field: Humble Oil & Refining Co. No. 1-F Beers, total depth 6,160 feet, salt water sand, abandoned. Stanolind Oil & Gas Co. No. 7 Matsushita, total depth 6,080 feet, perforated casing 6,038-78 feet, 585 bbls., one-quarter inch choke, tubing pressure 800 pounds, casing pressure 1,000 pounds. Same company's No. 21 Steve Paul, total depth 5,770 feet, perforated casing 5,750-56 feet and 5,700-25 feet, 601.38 bbls., one-quarter inch choke, tubing pressure 850 pounds, casing pressure 950 pounds. Same company's No. 3-B Stockwell, total depth 6,080 feet, perforated casing 6,046-77½ feet, 524 bbls., one-quarter inch choke, tubing pressure 725 pounds, casing pressure 1,000 pounds. Old Ocean: Harrison & Abercrombie No. 1 West Texas Abstract Co., total depth 10,200 feet, 344 bbls., one-quarter inch choke. Harrison & Abercrombie No. 1 Tryoer, total depth 10,133 feet, 7-inch casing 10,127 feet, perforated casing 9,825-50 feet, 350 bbls. various chokes, tubing pressure 3,000-3,100 pounds, casing sealed. Harrison & Abercrombie No. 1 Kaufman, total depth 10,262 feet, 7-inch casing 10,259 feet, plug back 10,194 feet, perforated casing 9,955-75 feet, 325 bbls. various chokes, tubing pressure 3,125 pounds, casing sealed.

Fort Bend County

Thompson field: Gulf Oil Corp. No. 14 Myers, total depth 3,172 feet, 347.05 bbls., one-eighth inch choke. Orchard field: Gulf Oil Corp. No. 56 Moore, total depth 7,935 feet, plug back 7,702 feet, perforated casing 7,532-52 feet, 30 bbls. distillate and 2,000,000 feet gas, three-eighths inch choke. Wildcats: Jack Frazier and associates No. 1 Baker, Barrett and Harris Survey, Pilant Lake prospect, abandoned 6,517 feet. Sam E. Wilson No. 1 Wood, Charles Heywood Survey, abandoned 6,852 feet.

Harris County

Bammel field: H. M. Harrell and associates No. 1 Pottery, total depth 6,286 feet, perforated casing 6,257-61 feet, 6 bbls. per hour through casing, three-sixteenths inch choke, tubing pressure 350 pounds, casing pressure 550 bbls. Eureka field: Houston Oil Co. No. 1-D Laura Lackner, total depth 7,721 feet, plug back depth 7,708 feet, perforated casing 7,687-7,702 feet, 67 bbls. in three hours, one-quarter inch choke, tubing pressure 1,350 pounds, casing pressure 2,050 pounds. Jack Frazier No. 3 Vollmer-Nieman, perforated casing 7,682-7,702 feet, 22 bbls. per hour, one-quarter inch choke. Fairbanks field: Amerada Petroleum Corp.-Stanolind Oil & Gas Co. No. 2

(Continued on Page 78)

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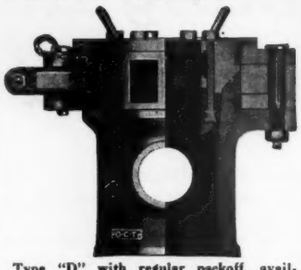

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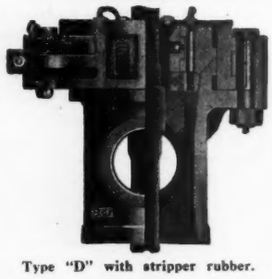

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Among the Drilling

HOLCOMB & THOMASON, Shreveport, La., are drilling an important southwest outpost test for Arkansas-Louisiana Gas Co. in the Jefferson area of Marion County, Texas. The well, No. 1 Johnson, topped the Massive anhydrite at 5,503 feet this week and is running higher than a formerly drilled southwest outpost, which extended gas production in the faulted area. The contractors will move rig to the same company's No. 1 Badgett, a south outpost, when the No. 1 Johnson is completed.

CROW DRILLING CO., of Shreveport, has set casing at 7,254 feet in the Standard Oil Co. of Louisiana No. 1 Warren, Lafayette County, west outpost to the Buckner field in South Arkansas. The well is due for a production test early in the week. For the same company, Crow is drilling below 7,203 feet in No. 3 McKean in Buckner, and the pay horizon is expected shortly.

J. C. TIPPETT, of Shreveport, who recently completed the first producer in the "D" sand of Cotton Valley's Lower Marine series for Midstates Oil Corp., is moving on a second test for the company, No. 1 Welori Unit, an east offset to the discovery well. The first well, a mile south outpost, opened new possibilities of additional reserves in the deep Cotton Valley horizon. A Tippett rig is drilling No. 1 Crumpler for Standard Oil Co. of Louisiana in the Village field of Columbia County, Arkansas, and is below 7,000 feet and approaching the producing horizon. In Panola County, Texas, a Tippett rig is drilling below 9,100 feet in an important deep wildcat, Texas Co. No. 1 Adams, in the Thomas Cox Survey. The fourth active rig of this contractor is beginning a deep Cotton Valley well for Oliphant Oil Corp.

E. R. KIRKPATRICK, of Houston, has the contract to drill a wildcat test for Jack Frazier in the Goodrich area of Polk County, Texas. The test is No. 1 Bergman, A. Viesca Survey, 3 miles west and slightly south of Goodrich. The rig has been moved from a wildcat test which Mr. Kirkpatrick recently drilled in Montgomery County.

ROWAN & HOPE, INC., of San Antonio, have started a well for themselves in the new Tesoro field, Duval County, Texas. The test, No. 1 Cuellar, is 600 feet north of the discovery well, Arkansas Fuel Oil Co. No. 1 Cuellar. These contractors drilled the discovery well for Arkansas Fuel Oil Co., and also a second test, 4,000 feet southwest of the discovery well which was abandoned the past week, and the rig has been moved to their own location. These contractors have just received the contract to drill a 7,500-foot wildcat for Sun Oil Co. in Starr County, Rio Grande district. The latter test is No. 1 McKinney, A. J. Smith Survey 242, about 5 miles southwest of a wildcat distillate-gas well recently completed by Wheelock & Collins.

H. M. HARRELL, of Houston, has been given contract by the Ohio Oil Co. to drill No. 1 Cornelius, a deep wildcat test, C. Yarborough Survey, north of Markham, Tex. Drilling is to begin this week. This will be an 8,000-foot test.

JOHN BLAFFER, of Houston, is moving rig onto location for Benedum & McCormick No. 1 L. P. Allen, wildcat test to be drilled in the Deep Park area, Concordia Parish, Louisiana.

R. B. "CAP" FIELDS, of Houston, who has the contract for W. C. Neville and associates No. 1 Houston Farms, a wildcat on the Rattlesnake Mound prospect, southern Brazoria County, Texas Gulf Coast, has completed rigging up and is starting drilling.

H. L. WHISTON, Bakersfield, Calif., drilling contractor, is making exceptionally good time in drilling for Medford Oil Co., of Medford, Ore., in the Coalinga field of California. Only four days were required to reach a depth of 3,200 feet on Medford No. 1, in section 10-20-15. The objective is the recently discovered Eocene sand. The Whiston concern finished Meridian Oil Co. No. 4 fee in the northeastern part of the Fruitvale field several days ago for a yield of 350 bbls. per day from a depth of 3,058 feet. Mr. Whiston is president of the Meridian Oil Co. and also of the Palomar Refining Co. His contracting firm has started another Fruitvale well, No. 3 Guisti, for Pacific Oil & Gas Development Corp., which offsets a recent completion drilled by Western Gulf Oil Co.

TAFT WELL DRILLING CO. completed Western Gulf Oil Co. No. 37-B in northeast Fruitvale field for a flow of 292 bbls. per day through a one-half inch choke. This well extends the known Fruitvale productive area to the east. It was drilled to 3,001 feet with 8⅝-inch casing set above the sand at 2,973 feet.

MANNING & MARTIN, drilling firm of Denver and Tulsa, have contracted an 8,000-foot test in Potter County of the Texas Panhandle. The

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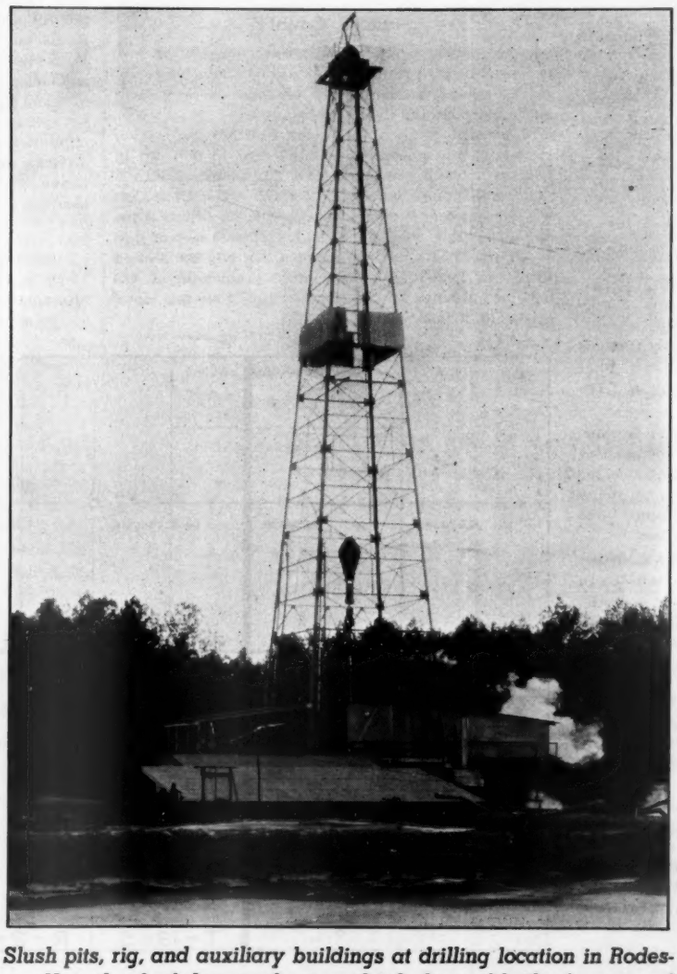
Contractors

test is about 7 miles northwest of Amarillo, and is the first deep test to be drilled outside of the large Panhandle gas area. The hole drilled by the spudder is down the required 136 feet and the 137-foot derrick is up. The cellar has been cemented and the drilling machinery is being assembled as fast as possible. Toolpusher for the job is Y. Boles while Slim Munroe is head driller.

BUTLER & HORNE, of Dallas, Tex., are drilling two important West Central Texas wildcats. One for Humble Oil & Refining Co. in Throckmorton County and the other for Beck & Peters in Shackelford County. The Humble test is drilling below 3,200 feet and the Beck & Peters test is drilling at about 800 feet. It was erroneously reported several weeks ago that the firm of Butler & Horne owned an interest in the well and acreage surrounding the new horizon that the firm opened for Humble Oil & Refining Co. in the Noodle Creek field of Jones County. It has been found that the drilling firm has no interests in the well or acreage adjoining.

GRACE & WOODS received a contract from T. G. Shaw Oil Corp. for an important Fisher County, West Central Texas, wildcat to be drilled to a depth of 4,500 feet. Surface casing has been set and actual rotary drilling will commence in the next few days. The test is on a 1,600-acre block assembled out of the Stribling ranch, in section 110-3, H.&T.C. Survey.

HELMERICH & PAYNE, INC., Tulsa drilling contractors, have the contract to drill a wildcat in section 26-7n-10w, in Adams County, Nebraska. Location is on a 24,000-acre block. It is to be a 4,000-foot test.



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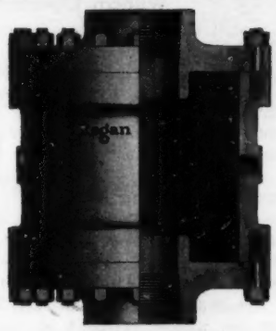

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Kansas Developments

By
DAL DALRYMPLE

Ainsworth Limits Extended; Ford County Test Produces

Extension of the Ainsworth pool of Barton County, Kansas, appeared imminent at Western Kansas Oil & Refining Co. No. 1 Gage, CEL W half NW section 2-17-13w, three-fourths mile east of production. Three feet of saturated Arbuckle dolomite was recovered in a core at 3,309-12 feet, total depth, and the crew was rigging up standard tools preparatory to completion. Seven-inch casing was set at 3,309 feet, top of Arbuckle formation. The Ainsworth area now includes the Ainsworth and South Ainsworth pools, which have been connected by intermediate extension wells. The most recent corporation commission report listed 38 completed oil wells in the Ainsworth field, with total potential of 37,453 bbls. of oil daily.

Another producing area in Barton County was being opened at Crown Petroleum Co., Hershey & Ash No. 1 Wolf, SE SW SE section 36-19-12w, one-fourth mile southwest of Ellinwood. It topped Arbuckle pay at 3,346 feet, total depth 3,371 feet. After acidizing, oil rose 1,500 feet in the hole and casing was being set. It was to be tested this week. The oil was 40-degrees gravity.

Sinclair Prairie Oil Co. No. 1 Young, CSL NE section 34-27-21w, wildcat 23 miles southeast of Dodge City in Ford County, was shut in for connections after flowing 45 bbls. of oil and 90 bbls. of water in 24 hours from plugged-back depth of 5,037 feet. Gas volume was estimated at 6,300,000 feet, with shut-in pressure of 1,025 pounds. It was reported the water in the hole appeared to be decreasing.

The Ritz-Canton field in McPherson County was extended one-fourth mile west at the south end when Davis & Oldham No. 1 Becker, NE NE NW section 2-20-2w, produced 213 bbls. of oil in 24 hours after acidizing chat topped at 2,917 feet, total depth 2,951 feet.

Wildcat Operations

A pool opener in the Stumps-Habiger-Bloomer district of northwestern Rice County was completed at C. L. Carlock and others No. 1-A Heinz, NW NW SE section 8-18-10w. It is 1¼ miles south of the Habiger pool. It topped Kansas City lime at 2,925 feet, total depth 3,019 feet, and made initial potential of 1,118 bbls. of oil, with no water.

Harwood Oil Co. and R. M. Heilman No. 1 Sawyer, SE NE NE section 10-28-7, about 1½ miles northeast of the Brandt pool, Butler County, was completed for initial production of 50 bbls. of 38.4-gravity oil daily, cutting 15 per cent water. It topped Mississippi lime pay at 2,740 feet and was bottomed at 2,748 feet.

Armer & Vernon No. 1 Seyfert, NW SW NE section 3-17-13w, wildcat northeast of the South Ainsworth pool, Barton County, was completed for initial potential of 282 bbls. of oil daily the past week, after finding oil early in July. Top of Arbuckle lime was 3,380 feet, best pay 3,395 feet, total depth 3,399 feet.

Phillips Petroleum Co. No. 1 Miller, C NW SW section 29-13-14w, opener of an Arbuckle lime area 2 miles west of Russell, in Russell County, was completed for initial potential of 829 bbls. of oil daily. Production was from Arbuckle formation at 3,310-17 feet, total depth.

Jones & Lane No. 1 Page, SE SE NW section 36-18-26w, Ness County wildcat, was dry and abandoned at 3,270 feet, total depth.

Rex & Morris No. 1 Newby, SW SW SE section 16-26-7, wildcat between the Young and Pontiac areas in Butler County, was dry and abandoned at 2,841 feet, total depth.

T. S. Dustin No. 1 Miley, SE NW NE section 17-27-5, wildcat east of Augusta, Butler County, was dry and abandoned at 2,008 feet, total depth.

Cyr Gas Co. No. 1 Schreiber, SE SW SE section 8-25-14, Woodson County wildcat, was dry and abandoned at 1,578 feet, total depth.

New wildcats reported in Kansas included the following: Vickers Petroleum Co. No. 1 Bozarth, C SW SW section 15-5s-24w, near Lenora in southwestern Norton County, cellar; Sinclair Prairie Oil Co. No. 1 McKinley A, SW SW NW section 26-18-26w, southwest of the Aldrich pool, Ness County, rotary test, cellar; Continental Oil Co. and Sinclair Prairie Oil Co. No. 1 Pichner, SE SE NW section 23-16-11w, southeast of the Davidson pool in northeast Barton County, location: H. L. Rowley and others No. 1 Sittner, SE SE NE section 35-21-12w, on an Indian Territory Illuminating Oil Co. farmout southeast of the Sittner pool in Stafford County, building rotary rig; Cities Service Oil Co. and others No. 1 Flora, SW SW NE section 12-19-10w, northwest of the Doran pool, Rice County, building rotary rig; Cities Service Oil Co. No. 1 Frees, CSL S quarter NW section 20-18-9w, south of the Gouldner pool, Rice County, location; Bowland & McCoy No. 1 Frankston, SE SE SW section 2-29-6, east of the Snowden & McSweeney pool, Butler County, spudded with machine and shut down; Z. Dunlap No. 1 Warren, NW NW SW section 4-28-10, east of the Severy area, southern Greenwood County, spudded with machine.

Stafford County

Stanolind Oil & Gas Co. No. 1 Harbenson, SE SE NW section 11-24-11w, Zenith pool, Stafford County, had pay at 3,739 feet, total depth 3,743 feet, and was completed for initial potential of 2,009 bbls. of oil.

Same company's No. 2 Hayes, NW NW SE section 11-24-11w, was completed at 3,757 feet, total depth in pay, and made initial potential of 1,243 bbls. of oil.

Pure Oil Co. No. 5 Krey, NE NW SE section 14-24-11w, was bottomed at 3,817 feet in pay and made initial potential of 1,961 bbls. of oil, with 2,279,000 feet of gas.

Sunray Oil Co. No. 1 Teichman, NE NE SW section 13-22-13w, Drach area, had initial production of 483 bbls. of oil daily. It was completed at 3,698 feet, total depth, in Arbuckle lime.

Two new operations in the Zenith area were reported. Jack Robertson and others No. 1 Community, SE cor. section 14-24-11w, on a 30-acre lease, was a cellar. Pure Oil Co. No. 6 Krey, SE NE SE section 14-24-11w, was a location.

Barton County

Shell Petroleum Corp. No. 2 Stettinger, NW NW SE section 1-16-14w, Trapp district, Barton County, found Arbuckle lime at 3,332 feet, total depth 3,352 feet, and was rated initially at 2,391 bbls. of oil daily.

Same company's No. 2 Bitter A, C NE section 11-16-14w, topped Arbuckle lime at 3,352 feet, total depth 3,373 feet, and pumped 21 bbls. of oil daily.

Indian Territory Illuminating Oil Co. No. 4 Hoffman, SW NE NE section 1-16-14w, made potential of 1,022 bbls. of oil daily from Arbuckle lime topped at 3,280 feet, total depth 3,294 feet.

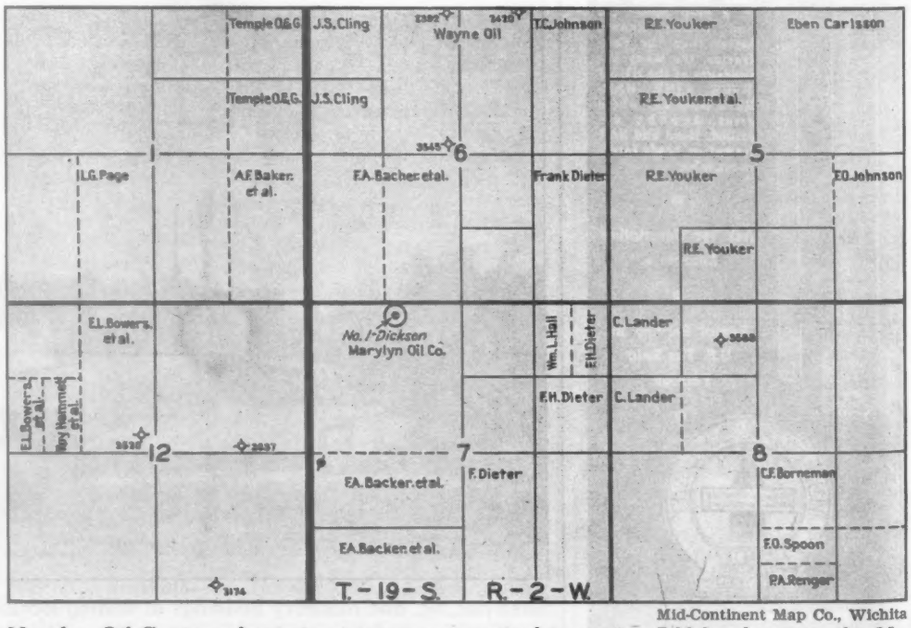
Magnolia Petroleum Co. No. 12 Steckel, NW cor. section 1-20-11w, Silica field, found Arbuckle lime at 3,297 feet, was bottomed at 3,309 feet, and pumped 85 bbls. of water in 23 hours, initially.

Ne wwork in Barton County: Shell Petroleum Co. No. 2 Hoffman C, NE NE SE section 1-16-14w, Trapp area, location; same operator's No. 5 Hoffman A, NW NW SW section 7-16-13w, South Trapp, rotary rig; Shell Petroleum Corp. No. 3 Ehrlich A, SW NE NW section 18-16-13w, rotary rig; Phillips Petroleum Co. No. 5 McClanahan, NW NW SE section 7-16-13w, South Trapp, location; Spencer & Yarnell No. 7 Patzner A, SW SE SE section 36-17-11w, Bloomer pool, building rig; Stanolind Oil & Gas Co. No. 14 Fred Panning, NE cor. section 2-20-11w, Silica field, location; same company's No. 1 Grant, C NW SE section 5-20-11w, Ellinwood area, location.

Rice County

Continental Oil Co. No. 1 Durr, NW NW SW section 18-18-7w, Geneseo district, Rice County, was dry and abandoned at 3,241 feet, total depth, in Arbuckle lime.

Transwestern Oil Co. No. 1 Rick, SE cor. section 17-



Mid-Continent Map Co., Wichita

Marylyn Oil Co. is endeavoring to open a new pool in section 7-19-2w, between the McPherson and Chindberg pools, in McPherson County

20-10w, Silica district, had a hole full of water and was abandoned at 3,362 feet, total depth.

Three new operations in Rice County were reported. Transwestern Oil Co. No. 2 Habiger B, NE cor. section 5-18-10w, Habiger-Stumps sector, was rigging up rotary. B. F. Stapleton and others No. 3 Grove, SW SE NW section 29-19-9w, on Carter Oil Co. farmout in the Chase area, was drilling below 1,300 feet. Atlantic Refining Co. and Sinclair Prairie Oil Co. No. 1 Pulliam B, C N half S half NE section 35-19-8w, Lyons gas pool, was a location.

Sinclair Prairie Oil Co. No. 5 Sharp, NE cor. section 7-20-9w, an old well in the Chase pool, Rice County, was plugged back from 3,262 feet, total depth in Arbuckle lime, to 3,100 feet, perforated casing at 2,942-54 feet, acidized, pumped 74 bbls. of oil in 24 hours and was recompleted.

Estimated Daily Production

Estimated daily production for Kansas for the week ending July 30, and for the preceding week was as follows:

	Barrels	
	July 30	July 23
Oxford City	1,250	1,125
Burrton	9,475	9,500
Ritz-Canton	4,775	4,200
Graber	3,650	3,625
Hollow-Nikkel	3,025	3,075
Lerado	925	975
Voshell	1,950	1,900
Wellington	4,725	4,975
Ellsworth County:		
Lorraine	2,425	2,300
Other pools	1,105	1,155
Rice-Barton counties:		
Bloomer	2,475	2,350
Chase	4,225	4,650
Geneseo	3,525	3,275
Raymond	850	825
Silica	9,200	11,625
South Silica	1,375	1,800
Keesling	1,025	750
Wherry	3,975	3,850
Miscellaneous Barton	5,880	6,435
Miscellaneous Rice	3,695	3,650
Russell County:		
Fairport	1,990	1,860
Gorham	1,310	1,185
Russell	897	1,290
Sullivan	5,745	5,280
Trapp	6,210	5,900
Miscellaneous Russell	6,778	7,670
Sedgwick County:		
Valley Center	1,050	1,065
Miscellaneous	2,795	2,870
Ellis County:		
Bemis	3,550	4,750
Miscellaneous	2,720	2,515
Kingman County	585	500
Stafford County	5,025	4,065
Greenwood County	8,950	8,900
Butler County	15,000	15,320
Other fields	21,840	22,515
Total Kansas	153,975	157,725

Russell County

Coralena Oil Co. No. 3 Sellens, SW NW SE section 29-15-13w, Trapp district, Russell County, found Arbuckle lime at 3,323 feet, was bottomed at 3,324 feet and made initial potential of 1,607 bbls. of oil daily.

H. W. Nuswanger No. 1 Ginther, NW SW NE section 19-12-15w, Fairport pool, topped Kansas City lime at 3,035 feet, total depth 3,095 feet, and pumped 20 bbls. of 38.6-gravity oil and 8 bbls. of water in eight hours, initially.

Ellis County

Magnolia Petroleum Co. No. 15 Johansen, NE NW SE section 22-11-17w, Bemis field, Ellis County, found Arbuckle lime at 3,432 feet, total depth 3,437 feet, and was completed for initial potential of 2,556 bbls. of oil daily.

Twin Drilling Co. No. 2 Karlin, C S half NE SE section 6-12-17w, Shutts sector, topped Arbuckle lime at 3,638 feet, was bottomed at 3,662 feet, and had initial potential of 1,225 bbls. of oil daily.

Bridgeport Machine Co. No. 1 Madden, NE NE SW section 4-13-16w, Emmeram area, had a hole full of water and was abandoned at 3,500 feet, total depth.

McPherson County

Continental Oil Co. No. 8 Huxman, SW SE NW section 29-21-1w, Graber field, McPherson County, topped pay at 3,251 feet, total depth 3,290 feet, and had initial daily production of 568 bbls. of oil.

Morine and others No. 1-A Suffield, SW NW SE section 25-19-2w, Ritz-Canton area, found pay at 2,943 feet, was bottomed at 2,948 feet, and pumped and flowed 296 bbls. of oil daily, with 2,500,000 feet of gas.

George Dickey No. 1 Matthews, NE NW SW section 24-19-3w, McPherson pool, was a rotary rig.

Ellsworth County

Phillips Petroleum Co. No. 1 Horejsi, SE SE NE section 17-16-10w, Stoltenberg area, Ellsworth County, was a location. Cities Service Oil Co. and associates No. 1 Mollhagen C, C W half W half SE section 29-17-9w, was moving in material for a test in the Schroeder pool.

Ness County

Continental Oil Co. No. 1 Elmore, NW NW SE section 8-18-25w, Aldrich area, Ness County, was dry and abandoned at 4,342 feet, total depth.

Greenwood County

Hennesey and others No. 1 Jackson, SE SW NE section 23-26-9, Reece pool, Greenwood County, was bottomed at 2,210 feet and completed for initial production of 10 bbls. of oil and 10 bbls. of water daily.

Parrish & Cross No. 2 Beevers, SE SW NW section 25-24-12, was dry and abandoned at 1,750 feet, total depth.

C. E. Christy No. 3 Dinius, NE SE SW section 31-24-13, Christy pool, was dry and abandoned at 1,691 feet, total depth.

Weideman No. 2-B Lewis, NW SE SW section 25-27-8, new Greenwood County test, was cleaning out at 1,085 feet.

Cowley County

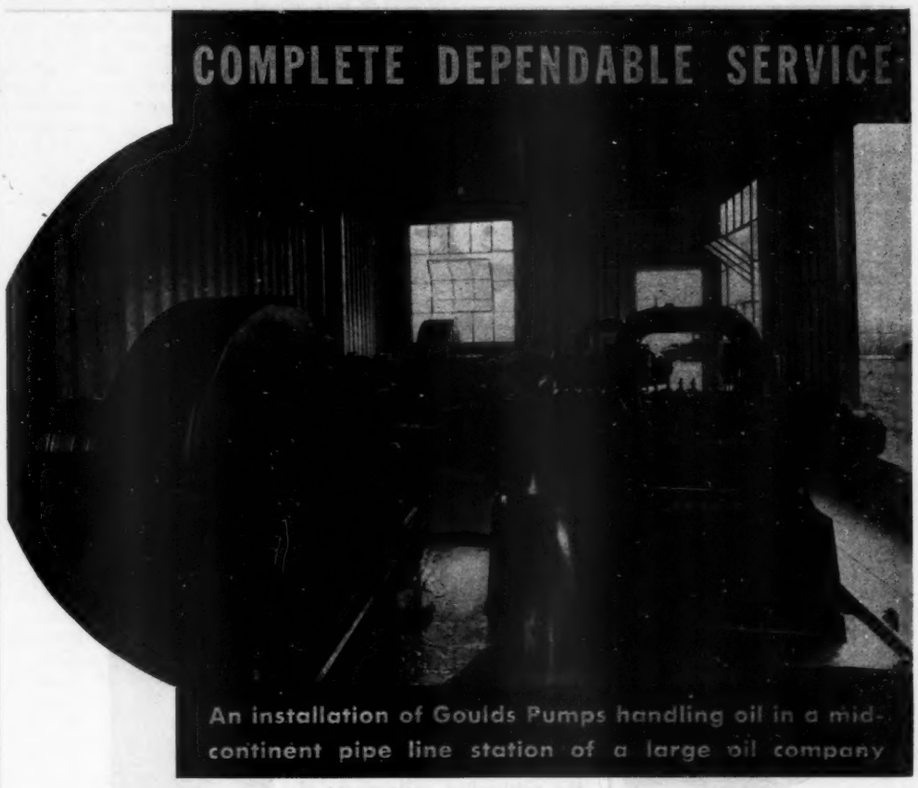
Smith and others No. 1 Wilson, SE SW NW section 9-33-6, Cowley County, was dry and abandoned at 3,149 feet, total depth.

New work in Cowley County: E. B. Shawver No. 7 Shawver, SE NW SE section 3-30-4e, North Rock pool, rig; Phillips Petroleum Co. No. 2 Newton, SE SW NW section 15-30-4e, Rock pool, moving in material; Phelps & Spencer No. 1-A Dunbar, NE NE SW section 29-30-5, drilling below 500 feet.

Woodson County

Oko Oil Co. No. 18 Headley, NW SW SW section 29-23-14, Winterscheid area, Woodson County, topped pay at 1,678 feet, total depth 1,686 feet, and pumped 3 bbls. of oil daily.

C. H. Barker and others No. 1 Lewis, SW SW NW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section 35-25-15, was bottomed at 1,485 feet, plugged back to 1,456 feet, and was abandoned.

New activity in Woodson County: Cities Service Oil Co. No. 4 Bahr, C E half NE NW section 23-23-13, North Virgil pool, an old well being deepened, drilling below 2,022 feet; Sinclair Prairie Oil Co. No. 8 Headley C, SW NW SW section 29-23-14, Winterscheid area, rigging up machine; Young & Sullivan No. 1 Eckhoff, C W half NE NW section 35-23-14, Hoagland area, was bottomed at 1,655 feet in Mississippi lime, was shot, had 200 feet of oil in the hole and was cleaning out; Cleveland Oil Co. and others No. 2 Fidelity, SW NE SE NE section 34-25-15, drilling below 200 feet.

Reno-Harvey Counties

Olson Drilling Co. and Shell Petroleum Corp. No. 1 Downie, SE SW NE section 14-23-4w, Burrton field, Reno County, an old well, pumped 35 bbls. of oil and 165 bbls. of water in 24 hours after plugging back from 3,603 feet to 3,725 feet, and was recompleted.

Sinclair Prairie Oil Co. No. 2 Neufeldt B, SE SE NE section 18-22-3w, an old well in the Hollow-Nikkel pool, Harvey County, was plugged back from 3,449 feet to 3,313 feet, pumped 70 bbls. of oil and no water in 24 hours, recompleted.

Sunray Oil Co. No. 1 Hege, SW NW SW section 13-22-2w, an old well in the Sperling pool, Harvey County, was deepened from 2,960 feet to 3,254 feet, set 5-inch casing at 3,240 feet and was waiting on cement.

Kearny County

Tri-County Gas Co. No. 4 Campbell, NE NE SE section 6-25-35w, Holcomb area, Kearny County, produced 3,500,000 feet of gas daily and was completed at 2,655 feet, total depth.

Other New Operations

In Sedgwick County, Prunty Production Co. No. 2 Rausch A, SW SW SE section 16-25-1e, location for rotary test.

In Butler County, National Refining Co. No. 2 Pray, NW SW SW section 31-27-3e, South Andover pool, cellar; Ray Horn and others No. 1-A Creed, NW SE SW section 17-29-4e, Douglas pool, machine; Republic Natural Gas Co. No. 1 Burnham, SW NW NW section 11-28-7, Brandt pool, location; same operator's No. 1 Sawyer, NE SE NE section 10-28-7, location; Reiss & Headrick No. 1 Sawyer-Farmer, NW SW SW section 2-28-7, location; Rex & Morris No. 1-A Guenther, NW NE NE section 29-26-7, location.

A Nebraska Wildcat

V. N. Soulgrav No. 1 Katzberg, C SW section 26-7n-10w, is location for a wildcat in Adams County, Nebraska. It is on a 24,000-acre block and is to be a 4,000-foot test. Helmerich & Payne have the drilling contract.

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Central West Fields

(Continued from Page 67)

SE SE section 21-8n-3e, Bethel sand 1,476-1,503 feet, pumped and flowed 213 bbls.; same company's No. 2 Holley, NW SW NE section 11-8n-3e, location temporarily abandoned; Carter Oil Co. No. 1 Holley, NE SE NE section 11-8n-3e, Bethel sand 1,518-65 feet, 45 bbls.; Sol Simon, Marcus Woods and others No. 1 Robinson, C NW NW section 2-7n-2e, wildcat, total depth 1,665 feet, dry and abandoned; Wheless & Whisenant No. 1 Mueller, SE cor. section 34-5n-1w, wildcat, total depth 1,546 feet, dry and abandoned.

Discovery in Wayne

H. H. Weinert No. 1 Twist, NE NW SW section 33-2s-7e, wildcat southwest of Fairfield and north of the Aden pool, Wayne County, topped Cypress at 2,930 feet, Ste. Genevieve 3,230 feet, pay 3,309 feet, total depth 3,325 feet, flowed 143 bbls. of oil through choke in two hours, and later flowed 630 bbls. in 36 hours through choke, and was shut in.

Pure Oil Co. No. 4 Gill, C E half SW NW section 27-2n-8e, northern Wayne County, Rosiclaire 3,007 feet, pay 3,011-39 feet, acidized, 85 bbls.; same company's No. 1 Billington, C E half SE SE section 23-1n-7e, wildcat, dry and abandoned at 3,158 feet, total depth.

Wabash County

Letighty and others No. 1 Higgins, SW NE NE section 23-1n-12w, eastern Wabash County, was dry and abandoned at 1,628 feet, total depth; J. S. Young No. 1 Barney & Whiteside, SW NE NW section 1-1n-12w, dry and abandoned at 1,554 feet, total depth.

In Shelby County, Clint Milan and others No. 1 Kull, SE cor. section 4-11n-3e, wildcat was dry and abandoned at 1,951 feet, total depth.

Olney District

In Richland County, Texas Co. No. 2 Zirkle, SE SW SW section 23-4n-10e, Olney pool, dry and abandoned at 3,222 feet, total depth.

In Lawrence County, Kesl and others No. 1 Gray, NW NW NE section 13-4n-11w, wildcat, had Buchanan sand at 1,061 feet, total depth 1,062 feet, and was completed for an estimated 2,500,000 feet of gas. It is about 7 miles northeast of Lawrenceville.

In Jefferson County, Carter Oil Co. No. 1 Ray, SW cor. section 3-1s-2e, Dix pool, Bethel sand 1,941-56 feet, 233 bbls.

In Clay County, Pure Oil Co. No. 2 Bunn, C E half SE NW section 16-2n-8e, Clay City pool, Fredonia 3,009 feet, pay 3,014-60 feet, flowed 227 bbls.

New Operations

New work reported the past week included the following:

In Johnson County, Catto F. Elzie No. 1 Boner, C SW NE section 30-11-3e, wildcat, a 3,000-foot test, spudded.

In Dewitt County, R. H. Smith and others No. 1 Hill, SW NW NW section 8-21-1e, wildcat, on a 13,000-acre block, set 20-inch at 120 feet.

In Macoupin County, Spence Brothers No. 1 fee, SE SW SW section 13-8n-9w, wildcat, drilling at 600 feet; Ganey & Windsor No. 1 Drew, NW NW NE section 33-9n-6w, wildcat, drilling at 400 feet.

In St. Clair County, W. E. Neil No. 1 Rheinhart, C E half SE NE section 20-2n-6w, wildcat, drilling at 185 feet.

In Fayette County, Finley & Grear No. 1 Torbeck, NW SW NW section 16-5n-2e, wildcat, drilling at 1,290 feet; Carter Oil Co. No. 1 Hobbs, SE SW NE section 6-7-3e, location; Jarvis Brothers No. 1 Walker, NE SE NW section 31-7n-3e, drilling at 1,460 feet; Barney Whisenant and others No. 2 Lilly, NE SE SW section 16-8n-3e, building rotary rig; Paul Doran No. 1 McCan, SE SE NE section 31-8n-3e, drilling at 600 feet.

(Continued on Page 82)

Southwest Texas District

By F. L. SINGLETON

Wildcat at Woodsboro Killed Pending Continued Testing

CORPUS CHRISTI, Tex., Aug. 1.—Addition of Woodsboro, Refugio County, to the list of Southwest Texas fields again has been delayed pending further testing of sands encountered in I. J. Allen No. 2 Rooke. This wildcat was completed the past week flowing 30 bbls. of distillate daily but in view of the possibility of making an oil well lower in the sand, it has been killed, and present perforations cemented.

This well was completed through perforations in the casing at 5,395-5,400 feet. Below this sand, separated by a thin shale break is a sand section reported carrying oil saturation. Previous to the latest completion, a drill stem test was made through perforations at 5,428-32 feet in which oil was tested but because of showing of salt water, the well was completed in the upper sand. However, it is possible the well might be perforated higher in the lower sand and make a good well.

Originally this test was drilled to a total depth of 6,875 feet but was plugged back to the present producing horizon passed up in drilling. It is in section 46 of the Bonnie View Subdivision, Aldrite Survey, an area which has been regarded for many years as promising where several deep tests have been drilled. The well is about 7,600 feet northwest of the operator's No. 1 Rooke, a deep test which showed salt water

Jim Wells Wildcat

Interest of South Texas operators late in the week also was directed to Magnolia Petroleum Co. No. 1 Valadez Heirs, a rank wildcat 11 miles southwest of Ben Bolt, Jim Wells County. It is reported showing considerable oil in sand at approximately 6,405 feet (exact depth withheld). Preparations at latest reports were being made to attempt a drill stem test. This wildcat, located in the La Anima Sola Grant, also received attention several weeks ago when it tried to blow out while coring at 6,390 feet. In a drill stem test at that time 180 feet of mud and oil was recovered. The test was made through quarter-inch chokes top and bottom and showed a working pressure of 900 pounds. Indications point to the opening of another field.

Prospects of a 9,000-foot extension of the newly opened 7,200-foot producing horizon in the Saxet field were dimmed late in the week when Conroe Drilling Co. No. 10 Frank Bliss tested 1,350 feet of salt water in a drill stem test of the sand at 7,245-58 feet. When the test cored the sand showing oil saturation, extension of the sand seemed assured, and operators were looking to a new revival of drilling activity in the Saxet field. So far, development of production in the new deep sand has been limited, and treacherous.

Aqua Dulce

In the Aqua Dulce field, Nueces County, Union Producing Co. No. 1 Brown established itself as South Texas deepest test. Late in the week it was drilling below 10,345 feet. Previously the record was held by Amerada Petroleum Corp. No. 8 Haff & Oppenheimer, Pearsall field, Frio County, which went to 10,341 feet. Shell Petroleum Corp. No. 1 Yturria, Willacy County, another South Texas well, was quit at 10,286 feet. The Union well, however, is in heaving shale topped at 9,615 feet. Original plans called for drilling to 12,000 feet or below.

The Alice area continues the hot spot of South Texas with more than a dozen rigs running in that vicinity, and with an equal number in other parts of Jim Wells County along the Alice play. Only one new well was brought in at Alice during the week. Pitkin & Goldston No. 1 Lindsay & Reed, which gauged 150 bbls. daily on an eighth-inch choke, producing from sand at a total depth of 5,352 feet. Chief activity at Alice is around the Choate southwest extension area. Since Choate No. 1 Stillwell came in 10 days ago, drilling has been started, or location made, at a half dozen tests in the extension area.

Arkansas Fuel Oil Co. abandoned No. 2 Cuellar, 4,000 feet southwest of its discovery well in the recently opened Tesoro field, Duval County. The test, the second drilled, tested salt water in the sand at 2,775-90 feet, after plugging back from a total depth of 5,541 feet, where it also tested salt water in the Pettus sand. Rowan & Hope, drilling contractors, have skidded their rig to a location, 600 feet north of the discovery, for a 5,500-foot test. The discovery is producing from the shallow sand.

Atascosa County

Wildcat: Mason Altgelt No. 1 Vanegas, Francisco De La Graza Survey, total depth 2,795 feet, abandoned.

Eagle Hill

Extenstion of the Eagle Hill field, northern Duval County, 2 miles northward into McMullen County, is indicated by showings in V. G. Schimmel No. 2 Kountz, This test drilled to 2,012 feet and has plugged back and set casing at 1,280 feet on the Cole sand, which showed favorably on a recent drill stem test. The same operator is drilling a wildcat south of the Loma Alto field (southern McMullen County), in northern Duval County. This test, No. 6 Hagist, is between the production and a wildcat recently drilled by W. A. Wagner and abandoned after getting showings in the Chernoskey sand topped at 2,185 feet, and in the Government Wells sand at 2,429-2,522 feet.

Production of the East Premont field, Jim Wells County, was extended 1,320 feet north by Magnolia Petroleum Co. No. 9 Seeligson, completed through perforated casing at 6,578-81 feet for 240 bbls. of oil daily on a 7/64-inch choke. It had a tubing pressure of 1,800 pounds with 1,850 pounds on the casing.

Western Gulf Oil Corp. has taken over the properties of Mason Altgelt on the Serpentine Plug 2 miles northwest of Anchorage, Atascosa County, and is starting its first test, No. 1 Vanegas, an offset to Mason Altgelt No. 1 Vanegas, junked and abandoned the past week at 2,795 feet. Good saturation was reported at 2,724 feet with promise of opening a field. Mason Altgelt retains his holdings on another Serpentine prospect in the county and is starting exploration on this.

George Echols and Continental Oil Co. No. 1 Power, wildcat in the William Lavery Survey, Goliad County, is in heaving shale at 5,305 feet. It encountered high gas pressures in drilling at 4,665 feet and tried to blow out.

Sun Oil Co. has started a 7,500-foot Vicksburg test in the A. J. Smith Survey No. 242, Starr County, No. 1 McKinney, 1,399 feet out of the southwest corner of the tract. It is about 5 miles southwest of Wheelock & Collins No. 1-A Guerra, wildcat distillate gas well completed last week. The latter, with casing perforated at 5,927-29 feet, was brought in flowing 65 bbls. of distillate and 25,000,000 feet of gas daily through a three-sixteenths inch choke.

Completion of the Wheelock & Collins well has instilled new interest in the Valley district. An active wildcat drilling play is expected with several wildcat projects in the making. Trading in leases and royalties is being enlivened, not only around present known areas and wildcats but generally throughout the district. Attempts to complete R. E. Harding No. 1 Lynn, 2 miles from McAllen, in the Juan Jose Hinojosa Survey, as a producer are being watched. This wildcat is reported to have two sands showing gas and oil or distillate, one at 6,660-6,715 feet, and the other at 7,070-7,115 feet. The hole was drilled to a total depth of 7,300 feet, and was plugged back to 7,212 feet, where casing was cemented. Casing has been perforated in the lower sand for first tests. In the meantime, the same operators have made location for a second test, 500 feet east of the McAllen city limits, to which the rig from the present well will be moved.

Brooks County

Alta Verde field: Taylor Drilling Co. No. 3 Singer, total depth 1,003 feet, abandoned. North Alta Mesa field: Atlantic Refining Co. No. 2 Mestenas, abandoned at 2,540 feet.

Calhoun County

Heyser field: Barnsdall Oil Co. No. 1 T. P. Traylor, total depth 5,478 feet, 7-inch casing 5,478 feet; perforated casing 5,486-94 feet, 99 bbls., three-sixteenths inch choke, tubing pressure 120 pounds, casing pressure 1,035 pounds

Duval County

Fitzsimmons field: Sun Oil Co. No. 1 Fitzsimmons, total depth 4,300 feet, perforated casing 4,295-99 feet, 135 bbls., quarter-inch choke, tubing pressure 1,325 pounds. Sweden field: Hiawatha Oil & Gas Co. No. 14 Parr, sand 4,570-80 feet, 165 bbls., five-sixteenths inch choke, 780 pounds working pressure. Standard Oil Co. of Kansas No. 8 Walsted, sand 3,901-08 feet, 80 bbls., 7/64-inch choke, 760 pounds working pressure. Southwood Oil Co. No. 7-A Rossi, sand 3,897-3,904 feet, 99 bbls., eighth-inch choke, tubing pressure 800 pounds, casing pressure 900 pounds. Tesoro area: Arkansas Fuel Oil Co. No. 2 Cuellar Brothers, total depth 5,541 feet, plug back and cemented 5½-inch casing 2,872 feet, perforated casing 2,775-90 feet, tested salt water, abandoned. Eagle Hill field: Magnolia Petroleum Co. No. 2 Duval County Ranch Co., flowed 28 bbls. in 17 hours, 1,528 feet. Casa Blanca field: Transwestern Oil Co. No. 1 Duval County Ranch Co., abandoned 1,305 feet. Labbe field: V. G. Schimmel No. 1 Murphy, abandoned 1,505 feet.

Jim Wells County

East Premont field: Magnolia Petroleum Co. No. 9 Seeligson, total depth 6,605 feet, plug back 6,581 feet, perforated casing 6,576-81 feet, 154 bbls. in 18 hours, 7/64-inch choke, tubing pressure 1,875 pounds, casing pressure 1,975 pounds. Alice field: Pitkin & Goldston No. 1 Lindsay & Reed, 5½-inch casing 5,352 feet, perforated 5,308-12 feet, 152 bbls., eighth-inch choke, tubing pressure 875 pound, casing pressure 980 pounds.

Live Oak County

Wildcat: W. W. Kelley No. 1 Nichols, 4 miles northwest of Three Rivers, abandoned at 1,000 feet. Harry Hotchin and associates No. 1 Schultz, Haughey Survey, 4 miles north of Three Rivers, abandoned 2,513 feet.

Nueces County

South Ciara Driscoll field: Phillips Petroleum Co. No. 1 McCright, total depth 5,607 feet, 7-inch casing 5,421 feet, perforated casing 5,316-22 feet, 111 bbls., eighth-inch choke, tubing pressure 1,000 pounds, casing pressure 2,000 pounds. Saxet field: B. H. Hilburn No. 3 Cox & Cryer, total depth 4,173 feet, perforated casing 4,082-86 feet, jetted 138 bbls., three-sixteenths inch choke. Luby field: Seaboard Oil Co. No. 31 James Luby, 110 bbls., 4,365 feet. Seaboard Oil Co. No. 11 Luby, 110 bbls., 4,375 feet. Wildcat: Coastline Oil Co. No. 1 State-Red Fish Bay, total depth 8,660 feet, tested salt water, abandoned.

Refugio County

Tomoconnor field: Quintana Petroleum Co. No. 20 Heard, total depth 5,830 feet, 1,430 bbls., three-eighths inch choke. Copana Oil Co. No. 8 O'Connor, total depth 5,905 feet, 550 bbls., quarter-inch choke. Refugio field: Houston Oil Co. No. 49 Rooke, sand 6,226-38 feet, 183

(Continued on Page 89)

Oklahoma Operations

By DAL DALRYMPLE

Wildcat on Nemaha Trend Is Looking Like New Discovery

A new Wilcox sand pool on the Nemaha trend in central Oklahoma apparently was being opened at the week-end as Olson Oil Co. and others recovered saturated cores at No. 1 Vanek, SE SW NE section 4-12-3w, wildcat south of Britton and northwest of the Oklahoma City field.

First showing of oil was found in soft formation at 6,732 feet, in second Wilcox sand topped at 6,721 feet. A 4-foot core of saturated dolomite and sand was taken at 6,732-37 feet, with good saturation found in another core to 6,747 feet, total depth. The crew was reaming down preparatory to setting pipe or coring ahead. This wildcat checked from 104 to 204 feet higher on top of Wilcox sand than three dry holes previously drilled in that part of Oklahoma County. The Vanek structure first was worked by William H. Atkinson, consulting geologist of Oklahoma City, in 1933. After a block was assembled, it was shot by seismograph by major companies, but subsequent tests were failures.

Another Oklahoma County wildcat was nearing a decision at Fain Drilling Co. and H. I. Grimes No. 1 Little, SW SW NE section 28-11-3w, southwest of the Oklahoma City field. It was bottomed at 6,928 feet, presumably in second Wilcox sand, although top of that formation had not been definitely ascertained. A Schlumberger test was being made in an effort to determine possibilities of the well. A core at 6,847-67 feet in broken sand, dolomite and lime was virtually without oil stains.

The search for deep production in southern Oklahoma received a set-back Saturday when Carter Oil Co. announced abandonment of No. 1 Carter-Harley, C NW NW section 19-2s-3w, on the Carter County side of the Milroy pool. It is a 40-acre east offset to the deep discovery well in the Stephens County part of the field and checked some 600 feet lower than the discovery. Water intruded at 8,280 feet, total depth, and it was plugged back several times and tested through perforations but failed to escape the water plague. Work was started at this test August 28, 1937. The deep discovery well at Milroy continues to produce around 300 to 350 bbls. of oil daily.

Seminole County

Sinclair Prairie Oil Co. No. 4 Tennison, SW SE NW section 22-6-6, Traugh area, Seminole County, flowed 485 bbls. of oil in nine hours from Viola lime pay topped at 3,491 feet. It was completed at 3,534 feet, total depth.

W. B. Pine No. 1 Sharber, NE SW SW section 15-6-6, was bottomed at 3,595 feet and pumped 60 bbls. of oil in 24 hours, completed.

Rogers & Rogers No. 1 Coker, SE SW SE section 26-7-5, was dry and abandoned at 3,173 feet, total depth.

Magnolia Petroleum Co. No. 3 Fleet & Osborn, SE SE NE section 26-5-7, Allen district, topped pay at 2,425 feet, total depth 2,441 feet, and flowed 294 bbls. of oil daily, initially.

J. D. Campbell No. 1 Mary, SW SE SW section 8-9-7, East Seminole pool, an old well, was deepened from 3,405 feet to Cromwell sand at 3,467-72 feet, total depth, and flowed 223 bbls. of oil, with 4,000,000 feet of gas, and was recompleted.

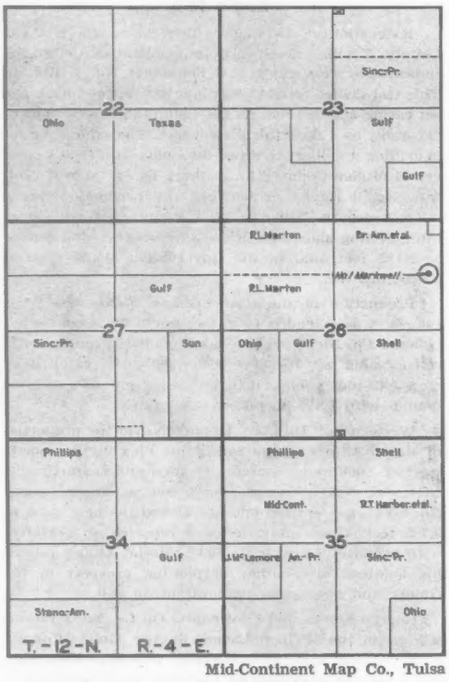
Wood Oil Co. No. 2 Cudjo, SE SE NE section 2-8-6, Bowlegs area, was running 7-inch casing at 4,096 feet.

New work in Seminole County: Vierson Oil & Gas Co. No. 1 Salma, NW SW NW section 25-5-7, Allen area, location; same company's No. 5 Factor, SE SW NW section 25-5-7, location; Magnolia Petroleum Co. No. 4 Fleet & Osborn, NE SE NE section 26-5-7, building rig; Sinclair Prairie Oil Co. No. 1 Sharber, SE NW SW section 15-6-6, Traugh pool, location; Rogers & Rogers No. 1 Winton, NW NE NW section 36-7-5, location; J. F. Smith and others No. 1 Huddleston, NE NE SW section 32-7-6, Dora pool, cellar.

Pottawatomie County

Denver Producing & Refining Co. No. 1 Ray, NW SE NE section 2-6-4, St. Louis field, Pottawatomie County, had Viola lime pay at 3,993 feet, was bottomed at 4,027 feet, and swabbed 1,248 bbls. of oil in 24 hours, initially.

Seven new operations were reported in the St. Louis field, as follows: Denver Producing & Refining Co. No. 1 Richards, SW NE NE section 2-6-4, rigging up rotary; Kirshner & Jordan No. 1-A Risenhoover, NW NW NE section 14-7-4, cellar and pits; Oklahoma Oil Corp. and others No. 7 Smith, SE SW SE section 25-7-4, rigging up rotary; E. W. Jones No. 1 School Land, NE NW NE section 36-7-4, drilling below 2,810 feet; Deep Rock Oil Corp. No. 5 Tolen, SE SW SW section 30-7-5, rigging up rotary; Magnolia Petroleum Co. No. 4 Nicklass, SW NW NW section 31-7-5, building rig; Alma Oil Corp. No. 1 East Curley, SW SE NW section 33-7-5, rig.



Mid-Continent Map Co., Tulsa

British American Oil Producing Co. and others No. 1 Markwell, wildcat between Meeker and the Wilzetta pool, Lincoln County, was drilling ahead

Pontotoc County

Simpson & Roodhouse No. 1 Breco, SE SW SW section 21-2n-6, Fitts district, Pontotoc County, topped pay at 3,190 feet, was bottomed at 3,218 feet, and pumped 108 bbls. of oil in 24 hours, initially.

Skelly Oil Co. No. 5 Ingram, SW SW NW section 23-2n-7, had a light showing of oil but was dry and abandoned at 1,291 feet, total depth.

Two new operations were reported in Pontotoc County. Continental Oil Co. No. 4 House, SE NE SE section 12-1n-7, Jesse field, had dug cellar and pits. Patsy Oil Co. No. 4 Meharg & West, NW SW SE section 21-2n-6, West Fitts district, was a rig.

Myers Drilling Co. No. 1 Busby, SE SW NW section 33-5-8, Allen sector, was dry and abandoned at 2,567 feet, total depth.

Senora Gas Co. No. 1 Cox, NW cor. section 17-5-5, Bebee district, was drilling below 1,490 feet. H. Z. Moore No. 1 Payne, SE NW SE section 16-4-4, wildcat, was drilling below 950 feet. Pierce & Morgan No. 1 Kroeger, SE NE SW section 30-5-7, wildcat in the Francis district, had Gilcrease sand at 2,094 feet, Cromwell sand 2,296 feet, total depth 2,335 feet, and was to plug back and test a showing of oil in the Gilcrease.

Estimated Daily Production

Estimated daily production for Oklahoma for the week ending July 30, and for the preceding week, was as follows:

	Barrels	
	July 30	July 23
Allen	5,250	6,150
Billings	4,225	4,450
Burbank	6,775	6,950
South Burbank	9,500	9,525
Balance Osage	17,000	17,000
Blackwell district	4,150	4,275
Bristow-Slick	6,450	6,925
Chandler	1,650	1,675
Crescent	3,775	3,875
Cromwell	3,050	3,125
Cushing-Shamrock	9,750	9,975
Duncan district	3,475	3,675
Edmond	4,575	5,400
Fish	2,925	3,025
Fitts	39,750	40,525
Jesse	2,775	2,350
Graham	4,300	4,225
Gray	925	900
Healdton	8,050	8,150
Hewitt	3,750	4,025
Keokuk	4,300	3,925
Konawa	1,175	1,225
Lucien	7,200	7,225
Moore	3,650	3,475
Oklahoma City	101,675	104,450
Olympic	4,875	4,775
Ramsey	1,550	1,450
Sasakwa	1,275	1,325
Sholem-Alechem	2,450	2,725
Seminole district:		
Bowlegs	7,250	7,325
Carr City	2,925	3,025
Dora	4,900	4,975
Earlsboro	4,025	4,575
South Earlsboro	375	425
East Earlsboro	4,175	4,475
Little River	6,350	6,250
East Little River	725	750
Maud	575	600
Mission	1,325	1,275
Seminole	6,350	7,050
East Seminole	1,425	1,550
Searight	2,325	2,675
Total Seminole	42,825	44,950
St. Louis-Pearson	17,750	19,375
Tatums	2,950	3,250
Tonkawa-Garber-Thomas	4,075	4,025
Wewoka	2,075	2,175
Yale-Jennings	3,700	3,725
Other pools	78,500	80,000
Total Oklahoma	422,625	434,275

Osage County

Tide Water Associated Oil Co. No. 4 Osage, NW SW SW section 21-24-9, Wynona district, Osage County, topped pay at 2,208 feet, total depth 2,261 feet, and initial production was estimated at 125 bbls. of oil daily, completed.

M. J. Graham No. 8 Osage, SW NW SW section 1-22-9, Flesher pool, was completed as a 1-bbl. pumper at 279 feet, total depth.

Norbla & Howard No. 1 Osage, NW NW NE section 31-22-9, was a location.

Muskogee County

M. S. Musselem No. 5 Evans, NE SE SW section 32-14-19, Muskogee County, was completed as a 10-bbl. pumper at 1,497 feet, total depth.

A Pepis No. 3-A Russell, SW NE SE section 19-15-16,

was bottomed at 1,305 feet, plugged back to 1,260 feet. and produced 500,000 feet of gas.

Heydrick No. 2 Bolby, SE NW NE section 22-13-19, produced 4,000,000 feet of gas at 671 feet, total depth.

Same operator's No. 3 Bolby, NW NE NE section 22-13-19, was a 2,000,000-foot gas well at 684 feet, total depth.

Same operator's No. 1 Pugh, C E half NE NW section 22-13-19, was bottomed at 674 feet and produced 750,000 feet of gas.

Tulsa County

Colpitt and others No. 18 Perryman, C S half SE NE section 35-18-12, was bottomed at 1,976 feet and was shot. Phillips No. 3 Hardesty, C W half NW NE section 26-19-12, total depth 1,435 feet, was plugged back to 1,100 feet and shot. They had not been tested.

Haskell County

Utilities Gas Production Corp. No. 1 Ralston, C SW NW section 27-8-20, Kint area, Haskell County, had sand at 641-47 feet, total depth, and produced 300,000 feet of gas, with 355 pounds rock pressure.

Carter County

Magnolia Petroleum Co. No. 6 Chilton, NW NW NE section 6-4s-3w, Healdton field, Carter County, an old well, was deepened from 998 feet to 1,077 feet and was dry and abandoned.

Same company's No. 8 Dawson, SE NW NE section 4-4s-3w, an old well, was deepened from 1,035 feet to 1,114 feet, produced 2,000,000 feet of gas and was recompleted.

Shell Petroleum Corp. No. 7 Horton, NE NW SE section 6-4s-3w, an old well, pumped 204 bbls. of oil daily and was recompleted after deepening from 1,142 feet to sand at 1,172-88 feet, total depth.

Magnolia Petroleum Co. No. 28 Chilton, SW NE NW section 4-4s-3w, was location for a new test in the Healdton field.

Gulf Oil Corp. and Carter Oil Co. No. 1-7 Lester, C NW NW section 35-2s-3w, Fox pool, was drilling below 7,743 feet. Carter Oil Co. No. 1 Feagin, C NW SW section 36-2s-3w, plugged back to 8,040 feet and was bailing at 4,000 feet.

Jefferson County

Stephens & Woolsey No. 1-A Trout, SE SE NW section 17-7s-5w, Oscar-Seay district, Jefferson County, pumped 5½ bbls. of oil daily and was completed at 754 feet, total depth.

Bridwell Oil Co. No. 1-H Seay, SW NW NW section 29-6s-5w, was dry and abandoned at 2,206 feet, total depth.

Joe Rogers No. 1-A Trout, SE NE SE section 18-7s-5w, was abandoned at 848 feet, total depth.

Bridwell Oil Co. No. 5 O. W. Seay, SW SW NW NE section 30-6s-5w, had spudded.

Kiowa County

Fields & Nagle No. 1 Stone, SW NW NE section 34-7-17w, an old well in Kiowa County, was deepened from 962 feet to 1,498 feet and was dry and abandoned.

Additional New Work

In Okmulgee County, M. E. Craig No. 2-A Miller, NE SE NW section 25-14-14, had spudded.

In Okfuskee County, Commercial Drilling Co. No. 1 Hibler, NW NE SE section 19-11-10, had spudded.

In McIntosh County, H. C. Detrick No. 1 Norton, NE NE SW section 3-12-14, was rigging up.

In Tillman County, Indian Territory Illuminating Oil Co. No. 1 Goodwin, NW NW SE section 1-3s-19w, Frederick pool, was drilling below 1,265 feet.

Braman District

Tide Water Associated Oil Co. No. 1 School Land, SE SW SW section 16-28-1w, in the new area southeast of Braman, Kay County, had pipe stuck on bottom at total depth of 3,084 feet. Derrick was pulled in and was being rebuilt.

In the Oklahoma City pool, Oklahoma County, Shirley Clum No. 1 Gilliland, Block 13, First Plainview Addition, on north line of the Dolomite zone, was drilling below 5,230 feet. Same operator's No. 1 Hawkins, was a location in south half of Block 14, First Plainview Addition.

Wildcat Operations

E. Fletcher No. 1 Wahl, SE NW NW NW section 1-19-25w, wildcat northwest of Arnett in Ellis County,

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had a hole full of water and was abandoned at 694 feet, total depth.

Big Chief Drilling Co. No. 1 Hoy, SE SE SW section 33-21-2w, east of the North Lucien pool in Noble County, had first Wilcox sand at 5,285 feet, second sand at 5,385 feet, and was dry and abandoned at 5,399 feet, total depth.

British American Oil Producing Co. and others No. 1 Markwell, C E half E half NE section 26-12-4e, wildcat between Meeker and the Wilzetta field in southern Lincoln County, was drilling below 2,169 feet in shale.

Gulf Coast Fields

(Continued from Page 69)

Cougat, total depth 6,855 feet, perforated casing 6,848½-52½ feet, 332 bbls. 12 hours, one-quarter inch choke, tubing pressure 1,000 pounds, casing pressure 1,100 pounds. Same operators' No. 2 O. J. Post, total depth 6,858 feet, perforated casing 6,843-51 feet, 224 bbls. 12 hours, one-quarter inch choke, tubing pressure 2,000 pounds, casing pressure 2,500 pounds. Same operators' No. 2 Ralph Smith, total depth 6,850 feet, perforated casing 6,845-48 feet, 276 bbls. 12 hours, one-quarter inch choke, tubing pressure 1,800 pounds, casing pressure 2,500 pounds. Showers & Moncrief No. 2 Key, total depth 6,845 feet, perforated 6,835-40 feet, 743 bbls., one-quarter inch choke, tubing pressure 950 pounds, casing pressure 1,050 pounds. Friendswood field: Humble Oil & Refining Co. No. 11 Beamer, total depth 6,045 feet, 613 bbls., one-quarter inch choke, tubing and casing pressure 850 pounds. Tomball field: Humble Oil & Refining Co. No. 3 Dooley, total depth 5,579 feet, perforated casing 5,555-59 feet, 395 bbls., one-quarter inch choke, tubing pressure 1,675 pounds, casing pressure 2,025 pounds. Same company's No. 7 Faris, total depth 5,565 feet, salt water sand, abandoned. Same company's No. 4-A Fritz Kobs, total depth 5,581 feet, perforated 5,573-78 feet, 324 bbls., one-half inch choke, tubing pressure 250 pounds, casing pressure 500 pounds. Same company's No. 2 Michel, total depth 5,554 feet, perforated casing 5,512-17 feet, 2,500,000 feet dry gas, tubing pressure 1,950 pounds, casing pressure 1,950 pounds. Mykawa field: Sterling Oil & Refining Co. No. 1 Williams, pumping 99 bbls., 4,465 feet. Clear Lake field: West Production Co. No. 1 Dobie fee, total depth 6,015 feet, 355 bbls., one-quarter inch choke.

Galveston County

Dickinson field: Cron & Gracey No. 1 Fedder, total depth 8,779 feet, perforated casing 8,670-80 feet, 138 bbls. distillate, 15 bbls. salt water, one-quarter inch choke, tubing and casing pressure 2,800 pounds. Pure Oil Co. No. 1 Hoff, total depth 8,105 feet, 110 bbls., one-quarter inch choke, tubing pressure 240 pounds, casing pressure 150 pounds. Pure Oil Co. No. 6 Sam Levine, total depth 8,132 feet, plug back 8,088 feet, perforated casing 8,060-72 feet, 347 bbls., one-quarter inch choke, tubing pressure 250-1,250 pounds, casing pressure 360-850 pounds.

Jackson County

Cordelle field: H. J. Porter No. 2 Pressley, total depth 2,673 feet, 288 bbls., one-quarter inch choke, tubing pressure 220 pounds, casing pressure 280 pounds. Mauritz area: J. K. Dorrance No. 1 Guethlein, abandoned 6,040 feet.

Jasper County

Wildcat: John Mayo No. 1 Cartwright, Legrande Survey, abandoned 7,759 feet.

Liberty County

Hardin field: Atlantic Refining Co. No. 2 Richardson, total depth 7,672 feet, perforated casing 7,635-55 feet, 505 bbls., one-quarter inch choke, tubing pressure 850 pounds, casing pressure 1,000 pounds. Humble Oil & Refining Co. No. 2-A Partlow, total depth 7,640 feet, 527.62 bbls., one-quarter inch choke.

Matagorda County

Bay City field: Hamman Exploration Co. No. 1 Foote, total depth 9,226 feet, perforated casing 9,194-9,224 feet, 208.63 bbls., one-quarter inch choke, tubing pressure 3,250 pounds. Van Vleck field: Skelly Oil Co. No. 15-B Cobb, total depth 8,494 feet, perforated casing 7,675-79 feet, 150 bbls., 1.9 per cent sediment and water, one-eighth inch choke, tubing pressure 1,200 pounds, casing pressure 1,375 pounds.

Polk County

Wildcat: C. E. Gates No. 2 Jackson, Onalaska area, abandoned location.

Wharton County

Picketts Ridge field: Crown Central Petroleum Corp. No. 1 Wittig, total depth 4,617 feet, tested salt water, abandoned. Withers field: Texas Co. No. 49-C Pierce, total depth 5,559 feet, plug back 5,548 feet, 109 bbls., one-eighth inch choke, tubing pressure 350 pounds, casing pressure 500 pounds. Texas Co. No. 9-A Thompson, total depth 5,548 feet, 91 bbls. fluid, 89 per cent oil, one-eighth inch choke, tubing pressure 375 pounds, casing pressure 450 pounds. Wildcats: M. C. Culver No. 1 Pryor, William Robinson Survey, Maucha area, abandoned 1,500 feet. Humble Oil & Refining Co. No. 1 Duncan, Spanish Camp area, abandoned 7,500 feet.

LOUISIANA GULF COAST

Acadia Parish

Jennings field: Guaranty Oil Co. No. 1 Housierre, sand 1,731-45 feet, 600 bbls. Superior Oil Co. No. 14 Leckelt, total depth 8,573 feet, plug back depth 7,070 feet, perforated casing, 475 bbls., one-quarter inch choke.

Cameron Parish

Cameron Meadows field: W. T. Burton No. 24 School Land, total depth 5,837 feet, plug back 3,596 feet, 7-inch casing 3,573 feet, sand 3,573-94 feet, gas well. Creole field: Superior Oil Co. No. 2-A State-Gulf of Mexico, total depth 5,159 feet, 7-inch casing 5,127 feet, 440 bbls., 11/64-inch choke, tubing working pressure 700 pounds. Hackberry field: F. E. Le Blanc No. 2 Landry, abandoned 3,621 feet. Union Sulphur Co. No. 44 Watkins, sand 2,802-28 feet, 408 bbls., 22 per cent wash water, one-quarter inch choke, tubing pressure 250 pounds. John Merrick No. 2 Vincent, total depth 3,160 feet, pumping 33 bbls. net oil. Wildcat: Pure Oil Co. No. 1 Calcasieu National Bank, section 18-12s-4w, abandoned 8,293 feet.

Evangeline Parish

Villa Platte field: Continental Oil Co. No. 1 Opelousas, total depth 9,125 feet, 374 bbls., three-sixteenths inch choke, tubing pressure 1,400 pounds. Continental Oil Co. No. 1 Vidrine, abandoned 10,506 feet.

(Continued on Page 82)

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GASOLINE ANTIOXIDANTS

Rocky Mountain Area

By
T. R. INGRAM

Northwestern Colorado Test Flowing Gas From Frontier

DENVER, Colo., Aug. 1.—A flow of gas estimated as high as 2,000,000 feet a day by the driller attracted attention to C. R. Privett No. 1 Sutton, a wildcat in northwestern Colorado.

The California Co. No. 13 Hoist, Quealy dome, Wyoming, was completed for 40 bbls. in the Dakota. The Osage field had two dry holes, one small shale well and two new operations. Ohio Oil Co. released a location for another well on Oil Springs dome in Carbon County, where a discovery was made last month. Another location for an outside well was made on Big Medicine Bow by the Ohio Oil Co. and California Co. The Sinclair-Wyoming Oil Co. had a 30-bbl. completion in its No. 33-A, in Lost Soldier.

In Montana there were three average completions and three new operations in Cut Bank and one completion and two new operations in Kevin-Sunburst.

The California Co.'s North Dakota test made a new depth record for the Rocky Mountain area at 9,561 feet.

NEW MEXICO

A new attempt to find oil in northern Lea County, southeastern New Mexico, was begun at a wildcat 3 miles east of Tatum as another outpost 14 miles northeast of that town was given up as a failure.

The new test is Tide Water Associated Oil Co. No. 1-L State, C NE NW section 23-12-36. It was bottomed at 390 feet and the crew was drilling plug after setting 12½-inch casing at 295 feet. Location is on a high projected by several seismograph parties. Humble Oil & Refining Co. and Shell Petroleum Corp. are contributing to the test.

The northeastern Lea County failure was Rowan & Nichols No. 1 State, C NE NW section 22-10-37, wildcat. It had a slight show of oil and water at 5,041-45 feet, but sulfur water intruded at 5,060 feet and it was plugged and abandoned at 5,077 feet, total depth.

Other completions of the week in Lea County included:

Texas Co. No. 1-Q State, C SE SE section 25-17-34, Vacuum pool, topped pay at 4,385 feet, total depth 4,775 feet, and flowed 303 bbls. of oil daily and naturally.

Gulf Oil Corp. No. 3 Ramsey, C SW SE section 35-21-36, Eunice district, flowed 264 bbls. of oil initially in 12 hours, with 1,940,000 feet of gas. It found pay at 3,765 feet and was bottomed at 3,810 feet.

Culbertson & Irwin No. 3 Liberty Royalty, C N half NW SW section 3-25-37, Langlie area, had pay at 3,400 feet, total depth 3,468 feet, and flowed 166 bbls. of oil daily.

Shell Petroleum Corp. No. 1 Whitten, C S half SE NE section 33-23-36, had natural flow of 143 bbls. of oil in the last six hours of an 11-hour test. Pay was topped at 3,550 feet, total depth 3,675 feet.

Stanolind Oil & Gas Co. No. 3-A Hill, SE SE NW section 6-21-37, had pay at 3,645 feet, was bottomed at 3,795 feet, and flowed 64 bbls. of oil naturally in 24 hours, with 1,000,000 feet of gas.

Two States Oil Co. No. 1 Hill, C SW SW section 31-20-38, had pay at 3,654 feet, total depth 3,790 feet, and was completed naturally, flowing 228 bbls. of oil in 12 hours. Gas gauged 200,000 feet.

One well was completed in the Jackson field, Eddy County, at Premier Petroleum Co. No. 1-B Madden, NW SW SW section 27-17-30. It flowed 190 bbls. of oil in 15 hours through open casing. Pay was topped at 3,224 feet, total depth 3,265 feet.

Lea County

Addison Oil Co. No. 3 Knight, C NE NW sec. 27-24-37. Drlg. 615 ft.
Amerada Pet. Corp. No. 3 State, C NE SW sec. 23-17-34. T.D. 4,326 ft.; rng. csg.
Anderson-Prichard Oil Corp. No. 2 Carlson-Harrison, NW NE SE sec. 22-25-37. W.O.C. 3,252 ft.
Anderson-Prichard Oil Corp. No. 1 Stuart, C W½ SW NE sec. 10-25-37. T.D. 3,437 ft.; to shoot.
Cities Service and Repollo No. 3 Brunson, C SW SE sec. 4-22-37. T.D. 2,556 ft.; P.B. 525 ft. to straighten hole; drlg. 1,502 ft.
Continental Oil Co. No. 2 Britt B-15, C W½ SW NW sec. 15-20-37. R.U.R.
Continental Oil Co. No. 1 Elliott, C NE NE sec. 17-22-37. W.O.C. 3,534 ft.
Continental Oil Co. No. 1 Hawk B-6, NW NW SE sec. 6-21-37. Loc.
Continental Oil Co. No. 1 Jack A-29, NE NE NE sec. 29-24-37. W.O.C. 1,205 ft.
Continental Oil Co. No. 6 Reed, NE SW SE sec. 23-20-36. Drlg. 1,090 ft.
Continental Oil Co. No. 1 State I-7, NE NW NE sec. 7-17-34. Drlg. 3,091 ft.
Continental Oil Co. No. 1 State K-29, C SW SW sec. 29-16-37. T.D. 4,915 ft.; slight por. at 4,910 ft.
Culbertson & Irwin No. 1 Dabbs, NE NE NW sec. 35-25-37. T.D. 3,331 ft.; flwd. est. 5 B.O.P.H.; 3,000,000 ft. gas; tstg.
Culbertson & Irwin No. 1 Henry, C N½ NW SW sec. 26-25-37. C.O. at 3,330 ft.
Getty Oil Co. No. 3-F State, C NW NW sec. 36-17-34. C.&P.
Great Western Prod. Co. No. 1 Leonard, C SE NE sec. 32-23-37. W.O.C. 215 ft.
Great Western Prod. Co. No. 1-C State, C NE SW sec. 7-19-37. T.D. 4,081 ft.; P.B. 4,070 ft.; acd. and flwd. 20 B.O.P.D.
Gulf Oil Corp. No. 2-D Kutter, C SE SW sec. 8-19-37. T.D. 4,155 ft.; P.B. 4,100 ft.; C.O. at 4,049 ft.
Gulf Oil Corp. No. 5 McCormack, C SW NE sec. 32-21-37. T.D. 3,770 ft.; to acd.
Gulf Oil Corp. No. 1-E Mattern, C NW SW sec. 1-22-36. Drlg. 3,330 ft.
Magnolia Pet. Co. No. 2 Brunson-Argo, C NE NE sec. 9-22-37. Drlg. 3,533 ft.
Magnolia Pet. Co. No. 1 Corrigan, C SW SE sec. 33-21-37. T.D. 3,609 ft.; drlg. plug.
Magnolia Pet. Co. No. 1-L State, C SE SW sec. 21-17-35. Drlg. 1,550 ft.
Magnolia Pet. Co. No. 11 State-Bridges, C SE NW sec. 25-17-34. T.D. 4,720 ft.; flw. 15 B.O.P.H. for 5 hrs.; S.I. to test.
Magnolia Pet. Co. No. 12 State-Bridges, C SE SE sec. 26-17-34. Drlg. 4,477 ft.
Magnolia Pet. Co. No. 13 State-Bridges, C SW NW. W.O.C. 826 ft.
Magnolia Pet. Co. No. 14 State-Bridges, C SW NE. Drk.
Maljamar O. & G. Co. No. 10 Baish, C SW NW sec. 22-17-32. T.D. 4,006 ft.; S.D.; repairs.
Maljamar O. & G. Co. No. 11 Baish, C NW NW sec. 22-17-32. Drlg. 3,370 ft.
Maljamar O. & G. Co. No. 4 Mitchell, C NE NE sec. 20-17-32. T.D. 4,097 ft.; tstg.
Maljamar O. & G. Co. No. 5 Mitchell, C NW NW sec. 19-17-32. T.D. 4,033 ft.; 600 ft. O.I.H.; to P.B.
Jas. A. Mascho No. 2 Cloyd, C SW SW sec. 20-22-33. Drlg. 3,020 ft.
C. T. McLaughlin No. 1 Polhamus, NE sec. 9-24-37. T.D. 3,672 ft.; S.D.O.
Mid-Continent Pet. Corp. No. 3 Marshall, SW SW SW sec. 12-21-36. T.D. 3,829 ft.; est. 50 B.O.P.D. nat'l.
Ohio Oil Co. No. 2 State-McCallister, C NE SW sec. 25-17-34. Drlg. 3,185 ft.
Olean Pet. Co. No. 1 Ferrell, C NE SE sec. 22-22-37. R.U.S.T.
Parker Drlg. Co. No. 2 Irwin, C W½ NW SW sec. 35-24s-37. T.D. 3,481 ft.; shot and flwd. 44 B.O. in 2 hrs.; est. 5,000,000 ft. gas.
Parker Drlg. Co. No. 1-A State, C SW SW sec. 21-22-37. Drlg. 550 ft.
Penrose & Rowan No. 1 Christmas, SE cor. sec. 28-22-37. Drlg. 3,620 ft.
Lem Peters No. 2 L. J. May, C W½ SE SE sec. 27-22-37. Drlg. 3,405 ft.
Phillips Pet. Co. No. 7 Santa Fe, C SE SW sec. 27-17-35. Drlg. 3,290 ft.
Phillips Pet. Co. No. 8 Santa Fe, C NW NW sec. 5-18-35. Drlg. 3,937 ft.
Phillips Pet. Co. No. 9 Santa Fe, C SE SE sec. 21-17-35. Drlg. 1,695 ft.
Repollo Oil Co. No. 2 Hair, NW SW NW sec. 9-24-37. T.D. 3,380 ft.; S.I.
Repollo Oil Co. No. 2 Turner, SW NE SW sec. 29-21-37. Drlg. 3,475 ft.
Repollo Oil Co. No. 5-B Whitten, NW NW NE sec. 4-24-36. T.D. 3,725 ft.; P.B. 3,639 ft.; 1,300 ft. O.I.H. in 13 hrs.; to test.
Republic Prod. Co. No. 2 State, C SW SW sec. 32-17-35. W.O.C. 1,550 ft.
J. M. Rush No. 2 State, NW NW SE sec. 20-20-37. Drlg. 3,765 ft.
Shasta Oil Co. No. 2 Woolworth, NE NW NW sec. 28-24-37. Drlg. 3,352 ft.
Shell Pet. Corp. No. 3-A State, C SE NE sec. 31-17-35. W.O.C. 4,270 ft.
Shell Pet. Corp. No. 1-D State, C SW SW sec. 31-17-35. Drlg. 3,753 ft.
Shell Pet. Corp. No. 1-G State, C SE SE sec. 22-17-34. Rng. csg. at 1,608 ft.; T.D.
Shell Pet. Corp. No. 3-H State, C W½ SE NE sec. 13-21-35. Drlg. 3,464 ft.
Shell Pet. Corp. No. 1 Swigart, C NE SE sec. 25-17-34. Loc.
Stanolind O. & G. Co. No. 4-B Langlie, C NW SW sec. 14-25-37. Drlg. 1,200 ft.
Stanolind O. & G. Co. No. 5-B Langlie, C SE SE sec. 9-25-37. Loc.
Stanolind O. & G. Co. No. 5-B Myers, C NE SW sec. 9-24-37. T.D. 3,530 ft.; drld. out to 3,370 ft.
Standard Oil Co. of Texas No. 1 State, C SW NW sec. 32-17-35. T.D. 4,670 ft.; to acd.
So. Pet. Expln. Co. No. 3 Downes, C NE SW sec. 32-21-37. Drlg. 1,460 ft.
Texas Co. No. 3 Black, C NW NE sec. 21-24-37. T.D. 3,600 ft.; flwd. est. 25 B.O.P.D. while C.O.
Texas Co. No. 4 Black, C SE NW sec. 21-24-37. C.&P.
Texas Co. No. 3-A Falby, C SE NW sec. 8-22-37. Drlg. 2,265 ft.
Texas Co. No. 3 J. S. Lea, SW NE SW sec. 14-20-34. T.D. 3,290 ft.; S.D.; repairs.
Texas Co. No. 2 Fanning, C NW NE sec. 4-26-37. Loc.
Texas Co. No. 1-N State, C SW SW sec. 30-17-35. C.O. to 4,747 ft.; P.B. 4,700 ft.; fsg.
Texas Co. No. 2-D State, C SW NW sec. 27-17-34. Drlg. wtr. well; T.D. 4,860 ft.; to test.
Texas Co. No. 4-O State, C NE SE sec. 36-17-34. W. O.C. 4,110 ft.
Texas Co. No. 5-O State, C SE NW sec. 36-17-34. Drlg. 4,140 ft.
Texas Co. No. 6-O State, C NW SE sec. 36-17-34. Drlg. 4,010 ft.
Texas Co. No. 1-R State, C NE NE sec. 6-18-35. Drlg. 2,915 ft.
Texas Co. No. 2-R State, C NW NE sec. 6-18-35. W.O. C. 2,146 ft.
Tide Water Asso. Oil Co. No. 1-L State, C NE NW sec. 23-12-36. Drlg. 210 ft.
Warren L. Todd No. 1 Lemon, C NW SW sec. 17-21-32. O.W.D.D.; old T.D. 3,752 ft.; to D.D.
Twin Oil Co. No. 1 Joyce-Pruitt, C SE SE sec. 31-21-37. Drlg. 3,450 ft.
Twin Oil Co. No. 2 Corrigan, C NE NE sec. 4-22-37. Drlg. 1,960 ft.
Twin Oil Co. No. 1 State, C SW SW sec. 22-17-35. Spd.
Two States Oil Co. No. 3-B Cole, C SE NE sec. 16-22-37. Drk.
Two States Oil Co. No. 1-B Hill, C NE NW sec. 5-21-37. C.&P.
Weier Drlg. Co. et al No. 1 Woolworth, NE NE SW sec. 28-24-37. T.D. 2,975 ft.; P.B. 2,700 ft.; drlg. out 2,750 ft.
Sam Weiner No. 1 Smith, NE cor. sec. 4-25-37. Drlg. 3,478 ft.
Weiner No. 1 Parcell, C SW NE sec. 8-23-28. T.D. 4,498 ft.; S.D.O.
Western Gas Co. No. 1 Matkins, C SE SE sec. 15-23-26. T.D. 3,853 ft.; P.B. 3,642 ft.; swb.

Eddy County

F. E. Baker No. 1 Eddy, NE sec. 12-22-27. T.D. 2,410 ft.; S.D.O.; W.I.H.
D. & B. Oil Co. No. 3 Jenkins, NE NE NW sec. 20-17-30. T.D. 3,300 ft.; acd. and S.I.
D. & B. Oil Co. No. 3-A Jenkins, SW SW NW sec. 21-17-30. Loc.
Dominion O. & G. Co. No. 2 Johnson, C SE NE sec. 35-16-31. T.D. 985 ft.; cmtg.
English & Harmon No. 1 Dougherty, NE NE SW sec. 3-17-27. T.D. 1,075 ft.; W.O.C.
Franklin Pet. Corp. No. 1 McIntyre, NW NE SE sec. 20-17-30. T.D. 1,160 ft.; S.D. repairs.
Fullerton Oil Co. No. 1-A Johnson, C SE NW sec. 35-16-31. Drlg. 1,483 ft
R. L. Holcomb No. 1 State, NW sec. 22-17-28. T.D. 1,980 ft.; S.D.O.
C. F. Ingram No. 1 Page, NE NE SW sec. 15-21-28. T.D. 2,190 ft.; S.D. repairs.
F. G. Keys No. 2 State, C SE NE sec. 9-17-28. Drlg. 1,050 ft.
Harry Leonard No. 1 Texas, NW NW NE sec. 36-16-31. Drlg. 2,900 ft.
Nash, Windfohr & Brown No. 5-A Stevens, C SE SW sec. 13-17-30. Drlg. 3,215 ft.; S.S.O.
Paton Bros. No. 2 Ginsberg, C SE SE sec. 8-18-31. T.D. 3,185 ft.; rng. tbg. to test.
Peyton Bros. No. 1 Erwin, C SW SW sec. 9-18-31. Loc.
Premier Pet. Co. No. 1 Dexter, NE SW SE sec. 28-17-30. Loc.
S. E. Quillin No. 1 Day, NE NE NE sec. 3-19-31. Loc.
Repollo Oil Co. No. 3 Beeson, SE NE SE sec. 28-17-30. Loc.
Repollo Oil Co. No. 4-A Parke, NW SE NW sec. 22-17-30. Drlg. 3,330 ft.; S.O.
Rudco O. & G. Co. No. 5 Yates, C NE NW sec. 33-18-28. T.D. 2,759 ft.; pay 2,726-35 ft.; shot at 2,726 ft.; C.O.
V. P. Welch No. 1 Lewis, SE SW SE sec. 5-16-28. T.D. 2,620 ft.; fsg.
Western Drlg. Co. No. 2-A Western, SE SE NW sec. 23-17-29. Drlg. 2,020 ft.
Neil H. Wills No. 2 Stovall-Wood, SE SE NW sec. 20-20-30. Drlg. 425 ft.
Yates-Dooley No. 1 Creek, C SW NE sec. 35-18-30. T.D. 565 ft.; rng. csg.

Chaves County

E. J. Fisher No. 1 Foster, C NW NW sec. 7-15-26. T.D. 862 ft.; W.O.C.
Grastorf & Caudill No. 1 Smith, C NE NE sec. 1-4s-29. Wildcat; new hole; drlg. 3,465 ft.
Nay Hightower No. 1 Billingslea, C SW NE sec. 28-11-30. M.I.S.T.
Interstate Minerals, Inc., No. 1 Dunigan, NW cor. sec. 15-15-30. T.D. 2,400 ft.; W.O.C.
J. & L. Drlg. Co. No. 2 Hurd, SW sec. 11-11-26. T.D. 1,000 ft.; prep. to D.D.

Colfax County

Winston Marks No. 1 State, SE NW sec. 5-25-24. Set 12½-in. csg. 1,200 ft.; drlg.

1. *Unidrive Head*
2. *Accessible Packing Gland*
3. *Water Lubrication*
4. *Standardized Column Pipe*
5. *Open-Bottom Impeller*

1. *Unidrive Head:* Designed specifically to apply power for pumps. Only POMONA provides a non-reverse ratchet which positively prevents damage from shaft rotating backwards.

2. *Accessible Packing Gland:* Accessible packing gland above ground, avoids expensive repairs which are inevitable if this part is hidden at the bottom of the drive shaft.

3. *Water Lubrication:* Positive lubrication by water being pumped. Stainless bearing surfaces. Only POMONA provides full-floating rubber bearings.

4. *Standardized Column Pipe:* Column pipe, like all other parts is interchangeable and fully standardized. Lines up accurately. Simplest and most economical to install.

5. *Open-Bottom Impeller:* Open-bottom bronze impellers are adjustable for water capacity and wear. Operate in streamlined, pocketless bowls, insuring long life and lowest power consumption. A properly lubricated bearing in every bowl.

POMONA PUMP CO. Manufacturing Plants: Pomona, Calif.; St. Louis, Mo. Branch Offices: New York, Chicago, Los Angeles, and San Francisco.

POMONA
Water-Lubricated Turbine
PUMPS

De Baca County

N. F. Woods No. 1 Jones, C NE SW sec. 17-4n-20. T.D. 190 ft.; fsg.

Otero County

Fred Turner, Jr., No. 1 Ella Everett, C SE SE sec. 34-22-13. Drlg. L. 3,713 ft.
Fred Turner, Jr., No. 1 H. V. Everett, SE SE sec. 28-22-13. S.D. 3,785 ft.; S.D.O.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc., No. 2 North Albuquerque, NE SE NW sec. 10-11n-4e. T.D. 3,750 ft.; C.O. to run 6⅝-in.

McKinley County

New State Oil Co. No. 1, NE NE NW sec. 1-17n-9w. M.I.M.
Claude Walker No. 7 fee, SW SW SE sec. 20-20n-9w. Drlg. 250 ft.

Rio Arriba County

Continental Oil Co.-L. M. Hughes No. 1 Esquibel, unsurveyed; approx. sec. 1-28n-4e. Drlg. blk. sh. 230 ft.
Oil City Pet. Co. No. 1 Azotea, SW SW NE sec. 11-31n-2e. Spdg.

San Juan County

Continental Oil Co. No. 77 Rattlesnake, NE NE NE sec. 2-29n-19w. Cmtd. 14 ft. of 7-in. lnr. at 889 ft.
Goodrun & Vincent No. 2 Goodrun, SE SW NE sec. 23-29n-11w. T.D. 30 ft.; W.O. csg.
Al Greer No. 2 fee, SW SE SW sec. 10-30-11w. S.D. 660 ft. for 10-in.
Anna Oil Corp. No. 6 Govt., SW NE NE sec. 33-30n-11w. Drlg. 1,900 ft.

Socorro County

Central New Mexico Oil Co. No. 1 Belen Gr., SE NW sec. 16-3n-1e. T.D. 2,965 ft. (C.D.); C.O.

Torrance County

Woolston Bros. No. 1 Garland, NE SE NE sec. 32-7n-7e. R.U.
Estancia Valley Carbon-Dioxide Dev. Co. No. 1 Crawford, SE NE NE sec. 32-7n-7e. Drlg. 950 ft.

Valencia County

Old Spanish Grants, Inc., No. 1 San Clemente, C SE SW sec. 23-7n-1e. R.U.R.
C. A. Grober et al No. 1 Fuqua, NE NE sec. 19-5n-3e. T.D. 900 ft.; R.U.R.

COLORADO

An erroneous impression apparently has been created among some of the Mid-Continent operators interested in the Rocky Mountain area by a press release dated May 12, 1938, and given out by the Department of the Interior, relative to the quantity of acreage which may be held under prospecting permits. The leasing act limits an operator to 2,560 acres on any one structure and to not more than three structures in a state. This, according to local officials, applies to the individual permittee, but where an area is unitized under an operating or group agreement and approved, this limitation does not apply. Heretofore the operator under an operating agreement with several permit holders was not considered as holding any interest in the permits until a discovery was made and they had gone to lease. Under the ruling of May 12 it is deemed that the operator in charge for all permittees does have an interest in the permit. In other words, the limit in acreage does not apply when an area is unitized under an operating or group agreement with a single operator in charge.

Archuleta County

Boone Dev. Co. No. 1 Newton, SE NW SE sec. 18-33n-1e. T.D. 303 ft.; W.O. 10-in.
Pagosa Oil & Dev. Co. No. 1 Macht, C sec. 32-36-1w. T.D. 1,520 ft. in Mancos sh.; pulling 6-in. to S.R.; S.O. in several stray sds. 1 ft or more thick.

Fremont County

Stanley Thomas No. 1 Rickwalt, SE SE sec. 2-19s-70w. Drlg. 1,525 ft.

Garfield County

Roaring Fork Oil Co. No. 1 Patterson, C NE sec. 36-7s-88w. Res. 875 ft.

Grand County

Interstate O. & R. Co. No. 1 Hinman, NE SE NW sec. 11-2n-81w. S.D. 3,920 ft.; will D.D. to Morrison.

Huerfano County

J. G. Tompkins & Sons No. 1 Pressey, NE NE NE sec. 10-29s-69w. S.D. 411 ft.; (prospecting for coal).
S. W. Pressey No. 2 Alamo, C SW SE sec. 3-27s-68w. S.D. 1,320 ft.

LaPlata County

N. Spatter No. 1-X Bryce, SE SW SW sec. 31-33n-9w. Drlg. below 1,200 ft.

Mesa County

Continental Oil Co. et al No. 1 Miller, SW SW NW sec. 36-8s-91w. Drlg. gr. sh. 5,199 ft.

Moffat County

C. R. Privett No. 1 Sutton, NE NE SW section 1-5n-96w, a wildcat on the Dry Lake structure, encountered a flow of gas at 525 feet in what the driller identifies as a sand in the Frontier. The hole was full of water at the time from sandy shale at 460 feet in the top of the Frontier formation. The gas cleaned the hole and blew for two hours. It was then overcome by the water and died. The 12½-inch is at 430 feet and uncemented. The driller estimates the flow as high as 2,000,000 feet a day. The gas came in after the bit had gone through 10 feet of hard sandstone. Just what the well will do when the water is shut off cannot be estimated with any accuracy. Mr. Privett, who lives at the Denver Hotel, in Denver, upon being advised of what had taken place, ordered the well shut down until he could get there. He said the 10-inch will be run or the 12½-inch lowered to shut off the water before drilling into the sand.

Stanolind O. & G. Co. No. 3-D Shaw, NW NE NE sec. 27-4n-92w. T.D. 3,517 ft.; top Triassic beds 3,508 ft.; cmtd. 7-in. lnr. through Sundance; perf. at 3,262-3,508 ft.; tstg.
Morapas Pet. Corp. No. 1 Coles, SW SW SE sec. 1-3n-92w. S.D. 2,750 ft. for 8¼-in.
C. R. Privett No. 1 Sutton, NE NE SW sec. 1-5n-96w. S.D. 500 ft.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NW sec. 31-36s-17w. Drlg. 4,666 ft.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE sec. 34-11s-75w. Drlg. 5,970 ft.

Prowers County

Continental Oil Co. No. 1 Ruby, C NE NW sec. 31-21s-44w. T.D. 5,065 ft.; fsg. D.P.

Pueblo County

Eden O. & G. Co. No. 1 Horse Creek, SW SE sec. 29-19s-64w. Spdg.
C. E. Puckett No. 1 Barber, NW sec. 35-21s-66w. S.D. in sh.&L. 630 ft.; artesian wtr. at 450 ft.

Rio Blanco County

Buford Oil Co. No. 1 Govt., C SW SW sec. 16-1n-91w. T.D. 2,430 ft.; rng. 8¼-in. to set on bttm.

Routt County

Steamboat Springs Drlg. Synd. No. 1 Brown, C NW NE sec. 1-6n-86w. Drlg. 100 ft.; prep. to run surf. csg.
Craig & Moore No. 1 Erwin, C SW NE sec. 33-7s-85w. T.D. 1,042 ft.; U.R. 10-in. to set on bttm.

WYOMING

Albany County

The California Co. No. 13 Holst, SE SW NE section 13-17n-77w, an inside well on the Quealy dome, was completed at 3,356 feet, 6 feet in the Morrison, for 40 bbls. per day from the Dakota. It is a south offset to No. 11 Holst.

Big Horn County

A. L. Rankin No. 1 Karjala-Rankin, C SW NW sec. 10-54n-94w. Drlg. 300 ft.
Prescott & Mileski No. 1 Govt., NE NW SW sec. 15-1n-93w. S.D. 550 ft.
Clifford S. Johnson No. 1 Johnson, CEL NW NW sec. 24-51n-93w. Rig; W.O. engine.
Joan Oil Co. No. 1 Howell, NE NW NE sec. 32-55n-97w. Drlg. 2,470 ft.

Carbon County

The Ohio Oil Co. released a location for its No. 2-A Baker, NW SW SW section 2-23n-79w, on the Oil Springs structure. It is a southeast offset to the Cunningham Oil Co., Inc., No. 1 Union Pacific-Cronberg, the discovery well in the Sundance, completed three weeks ago at 2,315 feet for 55,100,000 feet. The Cunningham company has under lease all the Union Pacific Railroad land on the structure and probably will drill two additional wells this summer. The Ohio company has the state, federal and private land.

Location also was released for the Ohio Oil Co.-California Co. No. 5-A Kyle, C NE NW section 26-21n-79w, Big Medicine Bow field. It is an outside well on the west side, a northwest offset to No. 3-A Kyle, which is being deepened from the Sundance to the Tensleep as a test, and a southwest offset to No. 6 Union Pacific, a small gas well.

The Sinclair-Wyoming Oil Co. has let contract for its deep test on Mahoney dome to Manning & Martin, Inc., of Denver.

Ohio Oil Co.-California Co. No. 5-A Kyle, C NE NW sec. 26-21n-79w. Loc.; (first report).
Ohio Oil Co. No. 2-A Baker, NW SW SW sec. 2-23n-79w. Loc.; (first report).
Sinclair-Wyoming Oil Co. No. 3 Mahoney, C SE NW sec. 34-26n-88w. R.U.R.
Ohio Oil Co.-California Co. No. 3-A Kyle, C SW NE sec. 26-21n-79w. Drlg. r.b. 6,262 ft.
Producers Oil Co. No. 1 Lake Valley, 200 ft. S of CNL sec. 14-20n-88w. Drlg. 1,916 ft.

Converse County

Wyshawn Oil Co. No. 2 Lindley, C SW SW sec. 35-32n-69w. T.D. 500 ft.; fsg.
Sand Creek Oil Co. No. 1 Probesh, NW SW SE sec. 29-32n-69w. T.D. 633 ft.; prep. to test.
Fred Bunker No. 1 Pestal, SE NE NE sec. 32-32n-69w. Drlg. 200 ft.; 10-in. at 170 ft.
New Era Fuel Co. No. 2 Mary Gasper, CNL NW SW sec. 25-32n-69w. Est. 50 B.P.D. from sd. in base White River at 655-70 ft.; W.O. pump.
Wyshawn Oil Co. No. 1 Lindley, NW SE SE sec. 34-32n-69w. T.D. 1,500 ft.; fsg. bailer.

Fremont County

Lincoln O. & G. Co. No. 1 Shoshone, NW NW SE sec. 23-1s-1e. Spdg. 20 ft.
Tropic Oil Co. No. 1 Govt., C SE SW sec. 34-27n-90w. Drlg. 3,368 ft.
Consolidated Oil Properties No. 3 Ewart, C SW SE sec. 16-1n-1w. Drlg. 890 ft.
Ben Stewart No. 1 Darnell, NE SE sec. 26-3n-1w. S.D. 2,245 ft. for 7-in.

Hot Springs County

Italo Pet. Co. No. 1 Skelton-Govt., SE SW NE sec. 13-44n-98w. Drlg. 231 ft. with C.T.

J. W. Bailes No. 1 Govt., SE SW sec. 28-43n-93w. T.D. 1,082 ft.; P.B. to 1,015 ft.; tstg.
D. D. Gibson No. 26 fee, SW NW SE sec. 35-43n-93w. T.D. 1,063 ft.; tstg.
California Expln. Co. No. 1 Govt., NE SE NE sec. 12-44n-97w. T.D. 4,100 ft. in Embar L.; tstg. W.S.O. after rng. sqze. job.

Lincoln County

H. C. Harris et al No. 1 Govt., SE N WNW sec. 23-21n-117w. Drlg. 640 ft.

Natrona County

General Pet. Corp. No. 1 State, NW NE SE sec. 16-35n-77w. R.U.R.; W.W. compl. at 1,200 ft.
Stanolind O. & G. Co. No. 26 T.P.-Wyo. Asso., C SE SW sec. 26-40n-79w. T.D. 4,050 ft.; top Tensleep 3,892 ft.; cmtd. 6⅝-in. at 4,060 ft.; will perf. and test.
Stanolind O. & G. Co. No. 8 T.P.-Midwest Oil, C NW SW sec. 35-40n-79w. Cellar and pits; W.O. drk.

Niobrara County

The Continental Oil Co. awarded contract at Ponca City for 136 miles of 8-inch, 25.29-pound pipe from Lance Creek to Cheyenne to the S. D. Bechtel Co., and 96 miles of 6-inch 17.02-pound pipe from Cheyenne to Denver to the Osage Construction Co. Construction is expected to start at once and will require about three months to complete.

The Minnelusa Oil Co. No. 2 H. & M.-3, in Lance Creek, is a near completion at 5,515 feet in the Lea sand. The 7-inch is at 5,492 feet. After drilling plug it swabbed 44 bbls. in one hour and then went dead. After being shut in several hours to built up pressure it began flowing 18 bbls. an hour and made 150 bbls. first 24 hours. It is running tubing for production test.

Fall River Royalty & Producers Co. No. 1 Govt., CSL SE SE sec. 35-40n-61w. Set 18 ft. of cond. pipe.
Continental Oil Co. No. 3 Apex-3, NW NE NW sec. 34-36n-65w. Cmtd. 13⅜-in. at 594 ft.; W.O.C.
Minnelusa Oil Co. No. 2 H. & M., NW NE NE sec. 8-35n-65w. T.D. 5,515 ft.; tstg.
H. D. Moore et al No. 1 Beregren, NW sec. 23-35n-63w. T.D. 1,127 ft.; U.R. to set csg. on bttm.

Park County

Ohio Oil Co. No. 1 Trans-Ark., CSL SW SW sec. 30-57n-98w. Drlg. 5,565 ft. in Morrison sh.; no shows in Dakota.
Valentine & Watson No. 1 Johnson, NE NE NE sec. 6-57n-99w. Drlg. 2,469 ft.
Resolute Oil Co. No. 2 Sate, C SW SW sec. 16-57n-101w. Drlg. 4,780 ft.
Continental Oil Co. No. 1 Northern Pacific, SE SE NW sec. 23-58n-98w. Drlg. sh. 344 ft.; 13⅜-in. at 293 ft.; contr. to Manning & Martin, Inc.

Sublette County

The Frontier Petroleum Co. has let contract for its deep test in the Dry Piney district to Manning & Martin, Inc. First objective will be a sand at 2,200 feet. If commercial production is not encountered in that sand it will go on down to the Wall Creek, exptected at 5,400 feet.

Frontier Petroleum Co. No. 1 Govt., SE SE SW sec. 1-28-114w. M.I.M.
Yellowstone Oil Co. No. 1, 200 ft. N of S line of the H. L. Budd ranch, SE SE sec. 31-31n-112w. Drlg. 100 ft.
Wyo. Pet. Corp. No. 1 Chas. Budd, C NE NE sec. 10-29n-113w. T.D.250 ft.; cmtd. 13⅜-in. at 168 ft.; W.O.C.
Progressive Oil Co. No. 1 Haddenham, C NE SE sec. 21-28n-113w. Drlg. 832 ft.

Sweetwater County

The Sinclair-Wyoming Oil Co. No. 33-A, SE SW SW section 11-26n-90w, Lost Soldier field, was completed at 2,177 feet, after plugging back 2 feet, for 30 bbls. per day on the pump from the Sundance sand. Top was at 2,129 feet. It was an old Lakota sand well deepened from 1,760 feet.

Uinta County

Stove Creek Oil Co. No. 1 Govt., C SE NW sec. 26-14n-119w. Res. at 1,400 ft.
Stove Creek Oil Co. No. 2 Govt., C SW NW sec. 26-14n-119w. Spdg. 30 ft.

Weston County

There were three completions and two new operations in Osage. The Osage Trust Co. No. 1, SE NW NE section 22-46n-64w, a test to the Sundance, had a small flow of water in that horizon and was plugged and abandoned.

Taylor, Dodge & Pavley No. 15, SW NE NE section 17-46n-63w, in the shale shallow district, made 40 bbls. per day initial from the shale at 315 feet.

Howland & Seneker No. 3, NE SW NE section 13-46n-64w, was dry at 1,403 feet.

Hugh Updike No. 1, CEL NW SE sec. 15-46n-64w. R.U. (first report).
Federal Oil Co. No. 9, CNL SE SE sec. 15-46n-64w. Rdy. to spd. (first report).
Des Moines-Osage Oil Co. No. 15, SW SW SE sec. 30-46n-63w. Drlg. below 1,000 ft.
Geo. Keisling No. 1, NW NE NE sec. 35-46n-64w. Drlg. 350 ft.
Wyoming O. & G. Co. No. 19, NW NW SE sec. 19-46n-63w. Top sd. 1,412 ft.; rng. csg.; S.O.
Gose Oil Synd. No. 1, NE NE NE sec. 28-47n-63w. C.O. after landing 4½-in. at 4,900 ft.
West Osage Oil Co. No. 3, SW SE NE sec. 15-46n-64w. Hd. tight sd. 2,140-54 ft.; will shoot.
John Brorphy No. 1 George, SW SE NW sec. 26-48n-64w. T.D. 2,080 ft.; W.O. csg.

MONTANA

Carbon County

R. C. Tarrant No. 2, SE NW sec. 4-6s-18e. Drlg. 910 ft.
Henderson Prod. Co. No. 1-H-11 Elk 11, SE SE NW sec. 35-9s-23e. S.D. 1,810 ft.
R. C. Tarrant No. 2 Heare, NW SE NW sec. 14-6s-19e. S.D. 1,780 ft.; chg. to rotary.
Sha-Wa Pet. Co. No. 1 Govt., SW NW NE sec. 35-9s-23e. S.D. 3,124 ft.
Miracle Oil Co. No. 2 Govt., CWL NE SE sec. 3-6s-23e. S.D. 2,381 ft. (C.D.)

Dawson County

Frank C. Hughes No. 1 fee, NW NE SE sec. 5-14n-55w. Drlg. 1,095 ft.

Fallon County

Montana-Dakota Utilities Co. No. 45-Unit 7, SE NW SW sec. 15-6n-60e. Drlg. 190 ft.

Fergus County

Baughman & Singley No. 1 Skaggs, C NW SW sec. 7-15n-20e. Drlg. 1,120 ft.

Glacier County

Cut Bank had three completions and three new operations.

The Santa Rita Oil & Gas Co. No. 3 Ritchie, SE NW SW section 5-33n-5w, swabbed 55 bbls. first 24 hours at 2,810 feet from the Cut Bank sand at 2,761-2,808 feet.

A. E. Wilkinson No. 3 All.-111, C NW SW section 31-33n-5w, swabbed 41 bbls. first 24 hours at 2,958 feet from the Cut Bank at 2,932-57 feet. There was a good show of oil in the Sunburst at 2,878-87 feet. The 7-inch is at 2,934 feet.

The Glacier Production Co. No. 3 Bonnet, CSL NW SW section 4-32n-5w, swabbed 63 bbls. first 24 hours at 2,958 feet from the Cut Bank at 2,920-57 feet.

32n-6w. Loc.; (first report).
Lawler No. 3 Hoerr-Harlan, NE SW SW sec. 5-33n-5w. R.O.G.; (first report).
Glacier Prod. Co. No. 2 Mueller, CSL NE NE sec. 18-33n-5w. M.I.M.; (first report).
A. R. Pardue No. 1 Tribal-171, SE SE SW sec. 7-32n-5w. Drlg. 1,400 ft.
Glacier Prod. Co. No. 3 State, NW NE NW sec. 16-33n-5w. Drlg. 1,575 ft.; Colo. 425 ft.; 10¾-in. 543 ft.
Santa Rita O. & G. Co. No. 1 State, NW NW SW sec. 36-34n-6w. Spdg. 150 ft.
Santa Rita O. & G. Co. No. 3 Lander, C S½ SE sec. 16-35n-6w. Loc.
Texas Co. No. 2 Curran, C NW NE sec. 8-32n-5w. Drlg. 1,860 ft.; Colo. 610 ft.
Nadeau Bros. No. 5 Farmers State Bank, CEL SE NE sec. 17-33-5w. T.D. 2,820 ft.; fsg.
Texas Co. No. 3 Hardwick, C NE NE sec. 17-32n-5w. Drlg. 2,825 ft.

Park County

Ben W. Ryan et al No. 1 Burgess, SE SW NW sec. 28-2s-11e. Drlg. 1,550 ft.

Petroleum County

Sha-Wa Pet. Corp. No. 1 Austed, SW NW SE sec. 22-13n-28e. Drlg. 210 ft. in 15½-in. hole.
O. B. Canfield No. 2 Govt., SE NE NE sec. 21-17n-24e. Drlg. 779 ft.

Pondera County

Jones-Chambers No. 1 Erickson, SW SE SW sec. 3-27n-4w. Drlg. 2,000 ft.; 7-in. 1,850 ft.

Stillwater County

Indian Terr. Ill. Oil Co. No. 2 Hepp, NW NW NW sec. 25-1n-21e. Drlg. L. 5,956 ft.

Teton County

California Co. No. 1 Unit, NE SE SW sec. 26-27n-9w. Bldg. rd. and M.I.M.
Gulf State Oil-Zodiac Oil Co. No. 1 Coffee-Wallenstein, SW SW SW sec. 5-27n-5w. Drlg. 1,870 ft.

Toole County

The Kevin-Sunburst field had one completion and two new operations. The Ramona Oil Co. No. 2 Government, NW NE NW section 12-35n-3w, is pumping 60 bbls. of sweet oil per day from the Sunburst sand at 1,543-85 feet.

Big West Oil Co. No. 3 Engle, CSL SW SW sec. 1-35n-3w. Drlg. 340 ft.; (first report).
Lion Oil Prod. Co. No. 4 Haugen, NE SE SE sce. 11-35n-3w. Drlg. 340 ft.; (first report).
C. D. Stock No. 3 Haggerty, SE NW SW sec. 13-35n-2w. Drlg. 720 ft.
Kluth et al No. 1 Gunderson, SE SW SW sec. 18-35n-2w. Drlg. 1,350 ft.
W. M. Cassidy No. 1 Phoenix, CNL NW NW sec. 28-35n-4w. T.D. 248 ft.; cmtd. 10-in.; W.O.C.
Fulton-Commonwealth No. 2 Thompson, NW NE SW sec. 28-35n-3w. Cmtd. 12¼-in. at 95 ft.; W.O.C.
General Oils, Ltd., No. 1 State, SW SE SE sec. 36-35n-4w. T.D. 1,795 ft.; P.B. to 1,575 ft.; will test Sunburst.
A. E. Crumley & Son No. 13 Fryberger, CNL NW SE sec. 24-35n-3w. Drlg. 1,450 ft.; Sunburst 1,325-45 ft.
Big West Oil Co. No. 2 Engle, SE SW SW sec. 1-35n-3w. T.D. 1,602 ft.; sd. 1,573-1,602 ft.; shot 70 qts.; no results; shot again 50 qts.
Montana Gas Corp. No. 2 Clark, C SE SW sec. 24-37n-1w. T.D. 2,630 ft.; sd. 2,400-21 ft.; P.B. to Sunburst at 2,103 ft.; to save as gas well.
Caspen T. Olen No. 8 Engermoen, SW NE SW sec. 11-35n-2w. T.D. 1,630 ft.; acd. 500 gal.
V. F. Dahl No. 1 Kimball, SW SE SE sec. 1-35n-3w. T.D. 1,747 ft.; cont. 1,747 ft.; acd.; no results; S.D.
O. A. Newstad No. 2 Haugen, NW NW NE sec. 11-35n-3w. T.D. 1,848 ft.; acd. again; no results; stdg.
Pfabe & Engleking No. 2 Hurley, NE NE NW sec. 8-34n-2w. Drlg. 1,320 ft.
H. C. Morton No. 8 Morton, C SW NW sec. 24-34-2w. S.D. 650 ft.
Chas. Grant et al No. 1 Anderson, SE NE NE sec. 26-35n-4w. S.D. 2,109 ft.

Yellowstone County

Broadview Dome Oil Co. No. 1 Stallinberger, NE NE SW sec. 18-3n-23e. S.D. 4,565 ft.; to resume.

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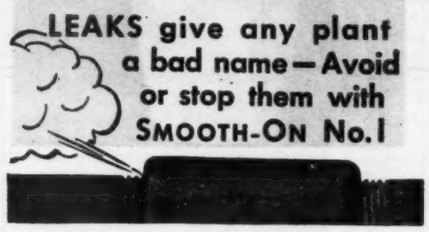
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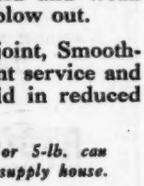

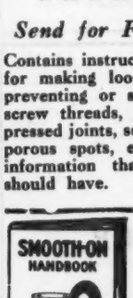

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SUBSCRIPTION?

Riverton Oil Co. No. 1 Fox, CEL NW NE sec. 14-2n-23e. T.D. 1,795 ft. (C.D.); fsg.

UTAH

Grand County

Cane Creek Oil Co. No. 1 Govt., NW SW sec. 31-26n-21e. T.D. 1,600 ft.; rng. 10-in. to 1,397 ft.
Crescent Eagle Oil Co. No. 1 Brendel, SW SE sec. 4-22s-19e. Drlg. 3,948 ft.

Summit County

Mountain Fuel Supply Co. No. 1 Wilde, NE SE SE sec. 9-2n-5e. Drlg. rd. sh. 3,460 ft.
Longwell Pet. Co. No. 1, SE SW SE sec. 35-3n-5e. T.D. 2,876 ft.; sdtrkg.

NEBRASKA

Keith County

Twentieth Century Oil Co. No. 1 Stuken, C NW NW sec. 21-14n-37w. Drlg. sh. 1,200 ft.

Scotts Bluff County

Houston Pet. Co. No. 1 Judd, NE NE NE sec. 15-22n-57w. Spdg. C.T. to 2,200 ft.; will then convert to rotary.

Sioux County

Felmont Oil Corp. No. 1, C SW NE sec. 21-27n-55w. Drlg. 1,492 ft.
Union Oil Co. of Calif. No. 1 Agate-15, NW SE SE sec. 15-28-55w. T.D. 6,890 ft.; fsg. parted 10-in.; dropped 2,400 ft.

NORTH DAKOTA

Williams County

California Co. No. 1 Kamp, C NW NE sec. 3-154n-96w. Drlg. 9,561 ft.

Gulf Coast Fields

(Continued from Page 78)

Iberia Parish

New Iberia field: William Helis No. 7 Bullock & Burke, perforated casing 5,745-5,805 feet, 1,064 bbls., one-quarter inch choke.

Plaquemines Parish

Garden Island Bay field: Texas Co. No. 29 State, perforated casing 6,880-6,925 feet, 962 bbls., three-sixteenths inch choke.

St. Landry Parish

Port Barre field: T. C. Markley No. 1 Lahaye, total depth 4,775 feet, plug back 4,648 feet, 200 bbls.

St. Martin Parish

Anse La Butte field: Butte Oil Co. No. 2 Billeaud, salt 1,972-2,000 feet, abandoned.

St. Mary Parish

Jeanerette field: Herton Oil Co. No. 3 Roane, total depth 6,688 feet, plug back 6,672 feet, perforated 6,654-72 feet, 525 bbls., 21 per cent salt water, tubing pressure 825 pounds. Charenton field: Kinsley Oil Co. No. 1 Hertel, abandoned 2,010 feet.

Terrebonne Parish

Dog Lake field: Texas Co. No. 6 State, total depth 6,833 feet, 139 bbls. fluid, 4 per cent sand, one-eighth inch choke, tubing pressure 1,050 pounds.

Central West Fields

(Continued from Page 74)

In Jefferson County, Crosley & Gill No. 1 Fitzgerald, NE cor. section 6-1s-1e, building rotary rig; Carter Oil Co. No. 2 Hobbs, NW SE NW section 10-1s-2e, location.

In Lawrence County, Hoffman and others No. 1 Jennings, SW NW NW section 2-4n-13w, rigging up machine.

In Clay County, Wiser Oil Co. No. 1 Johnson, C S half NW NW section 12-2n-7e, cellar and pits; Kingwood Oil Co. No. 1 Elliott, C S half, SE NE section 13-3n-6e, location.

In Franklin County, Amerada Petroleum Corp. No. 1 Ziegler, SW NE NW section 14-7s-1e, wildcat, building rig.

In Richland County, Pyramid No. 1 University of Chicago, section 26-4n-10e, an old well in the Olney pool, deepened.

Clinton County

First reports in the Centralia area and elsewhere in Clinton County: Redwing and others No. 1 Orrell, SE SW NW section 27-3n-2w, wildcat, location; Santa Fe Oil Co. No. 1 Vandello, NW cor. section 8-1n-3w, location; Shell Petroleum Corp. No. 1 Brough-Hanseman, SW SW NE section 1-1n-1w, set 7-inch casing at 43 feet; Shell Petroleum Corp. and Adams Oil & Gas Co. No. 1 Lippert-Felton, NE SE NW section 1-1n-1w, set big pipe at 61 feet; Shell Petroleum Corp. No. 2 Geary-Criley, NE cor. section 2-1n-1w, drilling at 1,190 feet; W. C. McBride No. 4 Allison, C SE NE section 12-1n-1w, spudded; Hughes and others No. 1 John Doe, Lot 1, Block 2, Pullen Subdivision No. 3, section 13-1n-1w, derrick; Pace & German No. 4 Fallen and Casco, SW SE SE section 13-1n-1w, running casing at 611 feet; O. L. Ray No. 1 Erbes, NW NW NE SE section 24-1n-1w, drilling at 200 feet; Ryan & Anderson No. 1 Doe, Lot 1, Block 6, Finney Heights, section 24-1n-1w, drilling at 540 feet; Iroquois Oil & Gas Co. No. 1 Blackburn, Lot 7, Block 4, Pullen Heights, section 24-1n-1w, location; Quinsberry Drilling Co. No. 1 Burrough, Lot 22, Block 8, Finney Heights, section 24-1n-1w, moving in material; Adams Oil & Gas Co. No. 3 Copple, NE NW SE section 35-2n-1w, location.

In Marion County, J. W. Menhaff No. 2 Illinois Central, C N half SW NE SW section 18-1n-1e, drilling at 740 feet; George Oexner No. 1 Washington School, SW SW NW NW section 18-1n-1e, shut down at 500 feet for repairs; Ross Coleman No. 1 Hadley, Lot 1, Block 16, Crosby Addition, section 19-1n-1e, rigging up machine; Paul Rossi No. 1 Home B. & L., Lot 7, Block 16, Jones and others Addition, section 19-1n-1e, rigging up rotary; Adams Oil & Gas Co. No. 2 Patoka, SW NW SW section 28-4n-1e, waiting on cement, 64 feet; Ray Pitman No. 1 Haney, SE NE SW section 16-1n-1e, cellar and pits; Thompson Drilling Co. No. 1 Eller, SW section 16-1n-1e, location.

OHIO

LIMA, Ohio, Aug. 1.—There were few completions in the central Ohio area this week. They included five gas wells, three oil wells and three dry holes.

In Athens County, Carthage Township, Gibson and others No. 1 Myrtle Swartz, section 31, made 125,000 feet of gas from the Maxon sand at 997-1,036 feet.

In Fairfield County, Madison Township, City Natural Gas Works No. 1 Joseph Shonk, section 12, was dry, total depth 2,248 feet. In Walnut Township, City Natural Gas Works No. 1 Mrs. John P. Holliday, section 29, gauged 281,568 feet from the Clinton sand at 2,038-48 feet.

In Noble County, Jackson Township, Wilbur Keith and others No. 4 Roy Wickens, section 14, made 15 bbls. of oil and 80,000 feet of gas from the Keener sand at 1,210-14 feet.

In Washington County, Liberty Township, Burkhart Oil & Gas Co. No. 6 Charles W. Hall, section 4, gauged 353,000 feet from the Maxon sand at 1,309-50 feet. In Palmer Township, Swingle No. 39 Clarence D. Palmer, Lot 1,077, made 1 bbl. of oil the first 24 hours after shot from the first Cow Run sand at 590-600 feet.

Lima Field

In Seneca County, Clinton Township, Sun Oil Co. No. 1 on the Tiffin Business University tract in section 7, is drilling at 830 feet. In Clinton Township, A. J. West No. 3 on the A. M. Clouse farm is shut down to run new tubing. In Liberty Township, West & McPharon are drilling at 900 feet on the Milo E. Saul. A new location has been made in Seneca County by J. V. Wicklund Development Co. on the J. Hammer tract, 2½ miles northeast of Fostoria, Ohio, expected to go to the Green sand.

EASTERN KENTUCKY OPERATIONS

ASHLAND, Ky., Aug. 1.—Four oil wells and one gas well were completed in the Eastern Kentucky region in the past week.

Price Fraley and others completed No. 3 on Flahaven Land Co. tract on Big Sinking in the Big Sinking district of Lee County at 688 feet. The well is producing 5 bbls. of oil per day. Combs & Smith report the completion of No. 3 on Flahaven Land Co. land on Little Sinking in the Big Sinking district with a daily producton of 4 bbls. at a total depth of 1,088 feet.

The South Penn Oil Co. No. 24 on Abbe J. McCoy land on South Fork in the district of that name in Powell County was finished but production was not ascertained. Claude Townsend and others completed a well on the Mullins farm on Salt Lick but production figures were unavailable.

The Kentucky-West Virginia Gas Co. completed well No. 572 on G. W. Taylor land on Levisa Fork in Floyd County at 1,552 feet in Big lime. This is one of the best gas producers brought in in recent weeks. It made 1,980,000 feet of gas in 72 hours. Rock pressure is 455 pounds.

North Louisiana, Arkansas

By GEORGE WEBER

Second Village Completion; Blowout in the Zwolle Field

SHREVEPORT, La., Aug. 1.—Completion of the second Village well in the Columbia County, Arkansas, field this week shared attention with a blowout of a chalk well in the Zwolle sector of Sabine Parish, North Louisiana. A southwest outpost test in the Jefferson section of the Rodessa trend was at critical depth at the week-end. Drilling in the southern part of the active Cotton Valley field is gaining, with important offset tests to two deep crude producers getting under way. No moves have yet been made to initiate drilling in the newly discovered Shreveport area, although leasing in the subdivided tracts surrounding the city, has been brisk during the week.

Outcome of the Village extension, which was doubtful for a time, gave the field its first expansion since discovery several weeks ago. The second well will be Fohs Oil Co. No. 1 Phillips, C NW NW section 15-17-19, located in a southwest offset position.

Early in the week a drill stem test was made at 7,357-89 feet. The testing tool was open for 15½ minutes, and quarter-inch chokes were used at top and bottom. The recovery was 15 feet of oil, 100 feet of salt water and 275 feet of drilling fluid, and working pressure at the end of the testing period stood at 600 pounds.

The test was then reamed down to 7,383 feet and a second drill stem test made at 7,383-89 feet. During this 35-minute test, with three-eighths inch chokes used top and bottom, the recovery was 2,500 feet of oil, 360 feet of mud and 120 feet of salt water. On a Schlumberger survey, the following formations showed: Anhydrite at 7,221-7,348 feet, sandy shale at 7,348-61 feet, lime at 7,361-65 feet, slightly porous lime at 7,365-71 feet, and medium porous to very porous lime at 7,371-85 feet. Operators have set 7-inch casing at 7,412 feet with total depth at 7,424 feet. Completion of the extension well is expected over the week-end or early in the coming week.

Meanwhile, Standard Oil Co. of Louisiana is approaching critical depth in No. 1 Crumpler, a west offset to the discovery, and a north offset to the Fohs well. No. 1 Crumpler was last reported drilling shale and sand at 7,050 feet.

In the Magnolia field, due west of Village, Atlantic Refining Co. is drilling below 2,000 feet in one test and rigging up on a second, and Petroleum Finance Co. is beginning a well.

Schuler Completions

Three good wells were brought in to add to reserves in the Schuler field of Union County, one of the most active drilling areas in the tri-state area. R. T. Adams No. 1 F. W. Powledge, in the northeast corner of Lot 2, SW section 7-18-17, a 1,000-foot northwest outpost, was completed for an initial of 42 bbls. hourly through a 49/64-inch choke. On a 24-hour gauge, the well made 806 bbls. through a 23/64-inch choke showing tubing pressure of 500 pounds and casing pressure of 975 pounds. Perforations in the Jones sand were at 7,625-45 feet, and the good thickness of sand and high initial production bear out the characteristics of all such wells in the northwest section of the field.

In the same section of the field, Roberts & Murphy brought in No. 1 Justiss, Lot 6, SW section 7-18-17, making 83 bbls. hourly through a one-half inch choke, and 600 bbls. daily through a three-eighths inch choke. On the latter gauge tubing pressure was 100 pounds, casing pressure 1,300 pounds and the well is bottomed at 7,775 feet. Perforations were shot at 7,596-7,617 feet.

Lion Oil Refining Co. also completed a new producer, No. 5 Mayfield, in Lot 2, NW section 18-18-17, for an initial of 620 bbls. daily through an eighth-inch choke, tubing pressure 700 pounds, casing pressure 750 pounds and perforations at 7,590-7,611 feet. Total depth is 7,725 feet.

Union County's important wildcat test, Joe Modisett No. 2 Union Sawmill Co., section 8-18-12, east of the Urbana field, is drilling red and gray shale below 4,300 feet at latest reports.

Jefferson Tests

In the Jefferson field, extreme southwest section of the Rodessa trend in Marion County, Texas, Arkansas-Louisiana Gas Co. is down to critical depth on No. 1 Johnson, a southwest outpost test. Located southwest of the same operator's No. 1 Pitts, which brought in the first Hill gas production in Marion County, No. 1 Johnson was revealed last week as running higher than the Pitts in the anhydrite. This week, the Massive anhydrite was topped at 5,242 feet, and the base of the same formation encountered at 5,756 feet. Latest reports showed the test drilling lime and shale at 5,888 feet, and the coming week should bring interesting results in this important well. Meanwhile, the same company has rigged up on No. 1 Badgett, in the Allen Urquhart Survey, north section of the city of Jefferson. The test will be a deep south outpost to the field proper, and its progress over the next several weeks will be watched with considerable interest.

During the past week a total of six new wells were completed in the Jefferson and Lodi areas of Marion County-Rodessa, with initial gauges ranging up to 535 bbls. daily through quarter-inch chokes. Drilling is also being resumed to the north in Cass County, where three tests are under way.

In the Zwolle area of Sabine Parish, another blowout occurred during the week, as Sutton-Zwolle Oil Co. No. 1 Bowman-Hicks, in the Blue Lake sector, section 14-7-14, was drilling at 2,207 feet in chalk. The well flowed wild for several hours, making about 25 bbls. hourly before being shut in. It is less than one-half mile northwest of the same operator's No. 1 Sabine Lumber Co., which several weeks ago brought in production in a new deeper horizon at Blue Lake. The blowout this week was projected for the deeper pay, when it blew out.

In the shallow Converse field, of the same parish, McClanahan No. 1 Frost Lumber Co., section 22-9-13, topped the anhydrite at 5,065 feet, and encountered the base at 5,304 feet. The test is bottomed at 5,705 feet while an electrical log is being run.

Cotton Valley

The most active field in the area, Cotton Valley, continued to hold interest, with drilling beginning in important offset locations on the south flank. The two wells recently completed for oil producers in the Lower Marine, are now flowing through pipe line connections. Although given a top allowable of 700 bbls. daily in a temporary order issued by the Louisiana Department of Conservation, Stanolind Oil & Gas Co. No. 1 Pardee is being prorated by pipe line purchases. The Stanolind well is in the Bodcaw sand.

The second deep crude producer, Midstates Oil Co. No. 1 Welori Lumber Co., on the south edge of the field, is producing from the "D" sand, a formation immediately above the Bodcaw in the section. Given initial pipe line outlet during the week, by an extension of the Caddo Crude Oil Purchasing Co., the well was making an average of 2,000 bbls. daily late in the week, to make up a back allowable of 700 bbls. per day, accumulated while the well was shut in awaiting connections.

At an operators' meeting held in Shreveport Friday, it was decided to ask the conservation body for a ruling fixing 80-acre spacing for the oil development of the deep sands, to correspond with the existing 80-acre spacing in effect for the gas-distillate area. It was also agreed that the control body should be requested to include the Bodcaw sand and the "D" sand, together with the five other sand stringers in the series, in one zone, and to exclude from the ruling, reference to any possible deeper producing horizons which may be brought in in the future. The cost of drilling the deep wells in Cotton Valley is so great that an 80-acre spacing, which affords sufficient drainage, is the minimum upon which producers can economically be completed. Pooling of tracts to conform to the 80-acre pattern is necessary in several cases to proceed with the desired development of the oil belt of the field.

Shreveport's north edge discovery was still shut in at the end of the week, awaiting a pipe line outlet. The discovery well, R. E. Allison No. 1 Ellerbee, about a mile from the north limits of the city, and a short distance from the edge of Cross Lake, Shreveport's municipal water supply, brought a flood of leasing activity in all directions, and the city has been belted by new leases.

The importance of a 40-acre spacing rule, to be applied in the highly subdivided area is generally recognized by operators and petroleum engineers. Development under this necessary spacing pattern will entail considerable pooling. Following a protest against the spacing rule last week by the Caddo Parish police jury, which has no authority in setting rules of that nature, lease prices dropped, and plans for development were delayed, until assurance is guaranteed that an orderly spacing will be followed in drilling the prospective acreage.

Estimated Daily Production

Estimated daily gross production all companies week ending July 29:

NORTH LOUISIANA

	Bbls.
Bellevue	625
Caddo light	4,450
Caddo heavy	2,430
Converse	565
Cotton Valley heavy	85
Cotton Valley light	*12,025
De Soto and Red River	1,385
Elm Grove	355
Haynesville	3,175
Holly	75
Homer	2,635
Lisbon	10,560
Pleasant Hill	100
Rodessa	36,535
Sarepta-Carterville	†540
Sligo	1,410
Sugar Creek	285
Urania	2,865
Zwolle	2,390
Total North Louisiana	82,490

SOUTH ARKANSAS

Buckner	1,115
Champagnolle	1,090
El Dorado	1,840
Lisbon	270
Miller County	385
Nevada	650
Rodessa	7,110
Schuler	23,400
Smackover light	2,050
Smackover heavy	16,025
Stephens	550
Troy	1,200
Urbana	1,180
Village	215
Total South Arkansas	57,080

Texas side of Rodessa field 31,020 bbls. daily.
*4,255 bbls. is distillate. †240 bbls. is distillate.

Canadian Organizations Merged

CALGARY, Alberta.—Members of the Petroleum Producers Association and the Oil and Gas Association of Alberta voted to merge in the Alberta Petroleum Association. Officers elected were: Honorary president, W. S. Herron; honorary vice presidents, A. H. Mayland, J. H. McLeod, S. G. Coultis, Col. L. D. M. Baxter, Major James R. Lowery, R. A. Brown, Sr., was elected chairman of the organization committee and E. W. Kolb secretary of the association.

California Field Report

By
L. P. STOCKMAN

Tideland Ownership Vested in the City of Long Beach

LOS ANGELES, Calif., Aug. 1.—One of the important developments in California in the past week was a decision of the state supreme court that ownership of the tidelands and subsurface accumulations of oil and gas in the Long Beach area vested exclusively in the city of Long Beach, and that the State of California had no interest, directly or indirectly sively in the city of Long Beach, and that the State officials and the city council and harbor commission of Long Beach, and opens the way for immediate development of tidelands.

The question of ownership of tidelands in the Long Beach harbor district reached the courts when the city and its harbor commission sought to compel the port manager to accept bids for drilling equipment. The port manager contended that the city did not own the lands or oil, and had merely the right to develop the harbor surface.

The state supreme court in rendering its decision held that, "there is no reason why the state, as proprietary owner of these tidelands, may not grant them to municipalities just as it may grant other lands held in its proprietary capacity. The complaint that these valuable properties should not be taken from the people of the state and given to one community is one that can have no weight in this proceeding. We are concerned not with the policy of the statute in question, but with its effect, and if the legislature without knowledge of the hidden treasures in these lands made improvident grants thereof, it is not within the power of the courts to nullify them."

The state supreme court's decision may also be found to govern tidelands at Huntington Beach in which event the city of Huntington Beach will have title, and thus be able to lease its tidelands for drilling. The city of Huntington Beach has been endeavoring to secure title to tidelands for several years without success. The state supreme court did not have before it for decision the question of ownership with respect to the original title, and merely ruled on the present ownership, assuming that the state did have a clear title before deeding the property to Long Beach. The question of ownership between the state and federal government was not an issue and is still undetermined as far as court action is concerned.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	July 22		July 15			
Intercoastal-domestic:	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	58,912	8,416	72,805	10,401	404,467	
Diesel and gas oil	.....	.....	.....	.....	.....	176,726
Gasoline	72,116	10,302	60,780	8,683	1,917,019	2,299,122
Kerosene	.....	.....	.....	.....	199,453	256,032
Foreign exports:						
Crude oil	443,315	63,331	527,966	75,424	13,820,509	7,654,604
Fuel oil	145,838	20,834	133,174	19,025	5,038,156	8,330,842
Diesel and gas oil	242,295	34,614	176,031	25,147	3,479,534	4,167,058
Gasoline	174,659	24,951	367,696	52,528	4,209,825	4,399,339
Kerosene	3,214	459	.....	.....	601,234	1,254,178
Lubricants	.....	.....	32,806	4,687	48,370	.....
Other unfinished oil	.....	.....	.....	.....	.....	777,652
Coastwise-domestic:						
Crude oil	155,411	22,202	377,286	53,898	6,474,107	2,138,908
Fuel oil	200,126	28,589	73,414	10,488	5,925,450	8,300,768
Diesel and gas oil	48,406	6,915	.....	.....	946,940	1,207,043
Gasoline	373,611	53,373	298,607	42,658	8,675,234	8,307,391
Kerosene	2,012	287	.....	.....	147,125	241,886

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	178,662	152,932
Gasoline	.....	.....	.....	.....	9,499	25,778
Asphalt	.....	.....	.....	.....	346,862	205,319
Lubricants	.....	.....	.....	.....	13,665	12,857
Foreign exports:						
Crude oil	99,427	14,204	134,049	19,150	3,113,432	1,687,329
Fuel oil	67,497	9,642	84,475	12,068	1,212,918	1,206,330
Diesel and gas oil	263,101	37,586	77,243	11,035	1,496,734	1,708,657
Gasoline	.....	.....	.....	.....	3,152,549	2,887,180
Kerosene	.....	.....	5,955	851	455,558	497,267
Asphalt	.....	.....	.....	.....	56,258	.....
Lubricants	81,352	11,622	40,678	5,811	324,312	325,615
Coastwise-domestic:						
Fuel oil	65,340	9,334	131,286	18,755	3,555,254	3,608,556
Diesel and gas oil	16,191	2,313	32,411	4,630	838,060	567,823
Gasoline	123,972	17,710	310,408	44,344	4,148,155	2,619,107
Kerosene	.....	.....	.....	.....	300,839	123,056

Wilmington

Seven new wells in the Wilmington field added 12,528 bbls. of new production. Republic Petroleum Co. No. 3 Harbor flowed 5,798 bbls. per day from 4,060 feet. It has been beaned down to 500 bbls. per day in conformity with the curtailment program. When completed it flowed 475 bbls. of clean 17.2-gravity oil per day from the Ranger zone, 3,501 bbls. of 26.4-gravity oil from the Upper Terminal zone and 1,822 bbls. of clean 28.9-gravity oil from the Lower Terminal zone.

Union Pacific Railroad Co. No. 11-E, on property of the Southern California Edison Co., was completed flowing 3,860 bbls. of clean 25.8-gravity oil daily with bottom of the hole at 3,942 feet.

General Petroleum Corp. completed two new wells. No. 40 Harbor Community was finished flowing 225 bbls. of clean 18.4-gravity oil per day from the Ranger zone at 3,015 feet and No. 44 Harbor flowing 430 bbls. of clean 17.3-gravity oil daily from the same zone at 2,990 feet.

Richfield Oil Corp. No. 7 Pacific Dock started at 2,085 bbls. of 23.9-gravity oil per day from 4,235 feet through a 32/64-inch bean and showed a tubing pressure of 400 pounds and a casing pressure of 600 pounds. Richfield Oil Corp. should have two additional wells ready for production tests within a few days and may have four new wells finished before the close of the week. Macson Oil Co. completed No. 2-55-G at 3,122 feet and it showed an initial production of 445 bbls. of 16.8-gravity oil from the Ranger zone. Selegma Oil Co. No. 17 Wilmington started at 185 bbls. of relatively clean 17.8-gravity oil daily from the Ranger zone at 3,728 feet after the hole had been finished with 740 feet of 4¾-inch liner including 80-mesh perforations at 3,029-3,571 feet and 3,648-3,723 feet.

Torrance

Deep zone development in the Lomita section of the Torrance field resulted in the completion of five wells that added 1,860 bbls. per day to the field's production. Three of the wells put on production this week were drilled from the grass roots and two of the total were redrilled and deepened from the upper zone to the lower. The two deepened wells were No. 13 Lomita of C. W. Camp, and No. 2 Lomita of Allison & Oglesby. The former was completed flowing 480 bbls. of 27.1-gravity oil daily and the latter 425 bbls. of relatively clean 26.8-gravity oil daily. No. 13 Lomita was finished at 4,965 feet after the hole had been carried down to 5,009 feet and developed bottom water. No. 2 Lomita, of Allison & Oglesby, was finished with 81 feet of 4¾-inch liner including 50 feet of 100-mesh landed on bottom, 4,993 feet, and brought in flowing through a 36/64-inch bean. Packard Oil Co. No. 2 Lomita, bottomed at 4,950 feet and finished with 137 feet of 5-inch liner including 115 feet of 125-mesh screen landed on bottom, was brought in flowing 340 bbls. of clean 26.7-gravity oil per day through a 36/64-inch bean. Elexico Oil Co. No. 2-K Allen has been completed flowing 335 bbls. of 26.8-gravity oil daily from 5,013 feet, and No. 1 Von Trik Lyons, of Jones-Long Oil Co. has been finished pumping 280 bbls. of 26.9-gravity oil daily from 5,023 feet.

Montebello

In the western end of the Montebello field, No. 27 Monterey of St. Helens Petroleum Co. and No. 2 Howard & Smith of Union Oil Co. were finished flowing 295 bbls. and 622 bbls. of crude oil per day, respectively. The former was finished with 139 feet of 5-inch liner including 119 feet of perforated landed on bottom at 6,279 feet and brought in flowing through two 1½-inch beans. In addition to the oil produced the well is flowing 5,720,000 feet of gas and indications point to the probability that oil production will increase as soon as the high head has been reduced. Union Oil Co. No. 2 Howard & Smith was finished at 5,513 feet and completed flowing through a 73/64-inch bean. The well shows a tubing pressure of 200 pounds and a casing pressure of 400 pounds and is making 940,000 feet of gas along with the crude oil. No. 27 Monterey of St. Helens Petroleum Co. was completed in the sixth zone which is of Miocene age, while No. 2 Howard & Smith of Union Oil Co. was bottomed in the fifth zone believed to be of Pliocene age. Brookline Oil Co. No. 1 Drake, an outpost in the extreme western end of the field, died a few days ago and will be returned to production as soon as a compressor can be rigged up. This well came in flowing 820 bbls. per day from open hole last week from the sixth zone at 6,444 feet but failed to hold up. No. 1 Burke of Herley-Kelly, Inc., has been holding up in good shape as current production is 1,740 bbls. of 35.2-gravity oil and 1,240-000 feet of gas per day through a 50/64-inch bean. Tubing pressure is 250 pounds and casing pressure 1,040 pounds. Standard Oil Co. has taken No. 1 McDonald down into the sixth zone and should have this well ready for a production test before the close of another week.

Rosecrans

In the Rosecrans field, Union Oil Co. Nos. 21 and 22, on the Rosecrans property, and Barnsdall's No. 9 Rosecrans are close to completion. Barnsdall Oil Co. has concluded a deal with Exeter Oil Co. whereby the former acquires the latter's 5-acre Higgins and 5-acre Wanka property for development. Barnsdall has already staked location for No. 4 Higgins and will proceed with immediate drilling. These two leases are adjacent to two wells finished by Superior Oil Co. in the southern part of the Rosecrans field and should be found productive in the lower zone.

Rio Bravo

Superior Oil Co. got a wet job in No. 1 Heibling in the deep zone with bottom of the hole at 12,264

feet, and the company recovered 6,000 feet of salt water with the hole open from 12,200 feet to bottom, 12,264 feet. The company resumed drilling but is going ahead slowly in order to carefully look over the zone. Superior failed to find the present productive Rio Bravo zone in No. 1 Helbling, but did core what appeared to be a rather promising zone at 12,200-64 feet. No. 1 Helbling is in the extreme southeastern end of the field. Superior Oil Co. also experienced water trouble in No. 1 Anderson in the Rio Bravo field again this week and a check indicates that water is entering the hole in the bottom at 11,608 feet and around the shoe of the 7⅝-inch water string landed at 11,385 feet.

Kern County

The Texas Co. abandoned No. 1 Pioneer Unit, a wildcat in the extreme southern end of the Maricopa section of the Midway-Sunset field, at 8,869 feet. This well failed to find anything of importance from top to bottom although a few minor showings were logged. It was drilled as a joint undertaking of several companies with the Texas Co. in charge of actual work. Shell Oil Co. is writing finis to its wildcatting operations in the Antelope Plains district of Kern County and is abandoning No. 1 Voight, a wildcat in section 32-27-20, as a duster at 910 feet. This well showed a small amount of tar and heavy oil at 518 feet. One abandonment and two completions marked development work in the Round Mountain field during the week just closed. Ring Oil Co. No. 1 L.&S., in section 11-28-28, was carried down to 2,339 feet and given up when the Vedder was found barren. The new completions in the Round Mountain field this week were Crestmont Oil Co. No. 4 Staley finished pumping 286 bbls. of clean 17.2-gravity oil daily from 1,645 feet, and Honolulu Oil Corp.'s No. 48, in section 20-28-29, finished pumping 72 bbls. of 17.3-gravity oil cutting 50 per cent from 2,011 feet. No. 4 Staley was finished with 101 feet of 6⅝-inch liner including 47 feet of 80-mesh screen landed on bottom and 1,503 feet of 2½-inch tubing.

In the Ten Section field of Kern County, Shell Oil Co. completed No. 56-30-A Kern County Land, in section 30-30-26, flowing 2,568 bbls. of clean 34.8-gravity oil and 2,916,000 feet of gas per day from 8,220 feet. It is flowing under a tubing pressure of 600 pounds and a casing pressure of 1,200 pounds. In the Fruitvale field of Kern County, Meridian Oil Co. completed No. 4 fee in section 23-29-27, pumping 242 bbls. of relatively clean 17.2-gravity oil per day from 3,055 feet after finishing the hole with 60 feet of 7-inch liner including 30 feet of perforated landed on bottom. In the Kern River front section of the Kern River field, Oils, Inc., completed No. 4 Seven Spot in section 13-28-27, pumping 75 bbls. of 13.2-gravity oil daily from 1,255 feet. Production subsequently declined to 35 bbls. per day, however, and will probably continue at this rate. In the Midway-Sunset field, Surprise Oil Co. completed No. 3 in section 36-32-23, pumping 38 bbls. of 14.1-gravity oil per day from 1,221 feet.

Coastal Area

Barnsdall Oil Co. completed another new well in the Gato Ridge field of Santa Barbara County and the crew will probably be moved to No. 5 Magenheimer, in the same field. Barnsdall's new well was No. 3 Tognazzini, in section 9-8-32, and it was completed pumping 520 bbls. of clean 14.6-gravity oil per day from 3,800 feet after the hole had been finished with 1,710 feet of 8⅝-inch liner including 1,356 feet of 400-mesh perforated landed at 3,693 feet and 3,000 feet of 3-inch liner. During the early part of the week, Petrol Corp. spudded in No. 511 Magenheimer, in section 9-8-32.

The largest completion in the Santa Maria Valley field this week was Union Oil Co. No. 5 Vincent completed flowing 1,640 bbls. of clean 15.9-gravity oil per day from 4,635 feet after the hole had been finished with 1,260 feet of 6⅝-inch liner carrying perforations at 3,398-4,178 feet and at 4,220-4,633 feet and 4,554 feet of 3-inch tubing. No. 4 Hopkins, a joint undertaking of Hancock Oil Co. and R. R. Bush Oil Co., was good for 360 bbls. per day on the beam following completion at 4,278 feet, and No. 1 Girard-Wallace of Sunshine Oil Co. tanked 570 bbls. of clean 16.1-gravity oil during the initial 24 hours following completion at 4,192 feet. E. H. Moore No. 10 Union Sugar, in section 19-10-34, has been completed at 5,157 feet but the well made only 30 bbls. per day on the beam. Production of the well is cutting 20 per cent but may clean up later.

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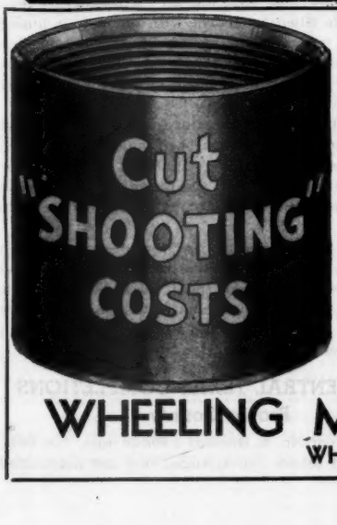

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West, Central and Panhandle Texas

By
D. H. STORMONT

Important Wildcat Tests and Extension Activity Reported

FORT WORTH, Tex., Aug. 1.—A general increase in activity in the West Texas district was seen last week with several important wildcats and pool extensioners showing possibilities of commercial production.

North Basin Area

In the southwestern corner of Yoakum County and 1½ miles west of Continental Oil Co. and Helmerich & Payne No. 1 Dowell, a wildcat being drilled by Gulf Oil Corp. as its No. 1 L. K. Moore, is showing possibilities of opening a new area. Seven-inch casing has been set at 4,850 feet after slight porosity and saturation had been cored from that depth to 4,970 feet, total depth.

Eastern Yoakum County received a new wildcat when Sam Yingling staked No. 1 Barrier in section 660. Several weeks ago Gulf assigned 1,920 acres to an Oklahoma operator for drilling of the test and he, in turn, assigned the deal to Yingling. Location is about 10 miles northeast of the Bennett pool.

Two failures were reported in Gaines County after sulfur water was encountered in two important wildcats that have been the center of interest in the area for several weeks. J. T. Perryman No. 1 Doak, section 43, Block 4, D.&W. Survey, was abandoned at 4,996 feet after drilling into sulfur water. The test was originally plugged back from 5,128 feet where sulfur water was also encountered. Riddle & Warr No. 1 Brown, another wildcat about 8 miles to the west, was abandoned after coring into sulfur water at 5,541 feet.

Central and South Basin

Two new tests in the Emma pool of southern Andrews County were staked last week. Rhodes, Tompkins & Donnelly, who recently brought in the first flush producer for 1,062 bbls., staked No. 2 Cowden 880 feet west of their No. 1, while Sinclair Prairie, which holds that acreage and farmed out a portion to the three operators for their test, staked No. 2 Cowden as an east offset to the operators' first test. Sinclair Prairie's first well, which really opened the area, was a small producer with an initial of 28 bbls. of oil daily. Olson Drilling Co. No. 1 Lockhart & Brown, also in Andrews County and 5 miles west of the south end of production in the Fuhrman pool, was showing an increase in oil after the hole was deepened to 4,536 feet. The hole filled 600 feet with oil while drilling continued below 4,650 feet. The test has been treated three times and shot once between the depths of 4,482 feet and 4,585 feet, and has tested only about 30 bbls. of oil at its best.

In Crane County, a possible mile and a quarter southeast extension was indicated for the area opened by Magnolia Petroleum Co. on the State University lands in the eastern part of the county. Magnolia Petroleum Co. No. 1-15 University encountered pay from 3,199-3,235 feet and casing has been cemented for a test. A mile and a quarter northwest of Magnolia Petroleum Co. No. 1-16 University, discovery well of the area, the same company's No. 1-G State, section 7, Block 30, topped the Yates lime marker at 2,150 feet, making it about 83 feet higher structurally than the discovery. The test is drilling below 2,300 feet in anhydrite. Five miles north of the flush Ordovician producing area of the county, Gulf Oil Corp. No. 4 McKnight, an Ordovician test, is preparing to make a drill stem test in saturation logged from 6,150-6,265 feet in the Simpson formation.

Pecos County

Two new tests in the Shearer area of northern Pecos County and just north of the Masterson pool, were staked by the operator who brought in the discovery well two weeks ago for 136 bbls. of oil per day from 1,432 feet. W. H. Street staked No. 2 and No. 3 Shearer as offsets to the discovery, all three tests being in section 103, Block 10, H.&G.N. Survey.

WEST CENTRAL TEXAS

Official results on several long delayed tests and developments among the many wildcats drilling in the area, featured the week's activity in the West Central Texas district.

Two Jones County wildcats received their final gauge last week to open officially producing areas in the county. Between the Sandy Ridge and the Lewis pools of Jones County, W. L. Snoddy and C. C. Dodson No. 1 Lon W. Steffens was completed for 140 bbls. in 24 hours from the Bluff Creek sand at 1,883-1,910 feet. Roberts Co. No. 1 Roy E. Pritchard, 2 miles northeast of the Hawley field, was gauged at 81 bbls. per day to open a new Tannehill sand area from the 2,075-foot level. Two new wildcats were staked in Jones County over the week. Approximately 1½ miles southwest of Mack Hays & Montour Production Co. No. 1 Chittenden Estate, recent discovery northwest of Anson in the western part of the county, Providence Co. staked its No. 1 J. W. Steele in Subdivision 11 of the Kratz Survey No. 335. Contract depth is 4,000 feet. Another 4,000-foot test was staked by the same company 1 mile to the south as its No. 1 Phillips Estate, Subdivision 43, League 334, Harrison County School lands.

In Baylor County, Wilcox Oil & Gas Co. abandoned No. 1 Portwood after drilling to 5,560 feet, 100 feet into the Ellenburger. The test was in the southeast part of the county and in section 3144, T.E.L. Survey. The same company has staked another 6,000-foot test in the southwestern part of the county as its No. 1 John E. Fritz in the David Barlow Survey, Abstract 193.

Completion of Throckmorton County's prospective pool opener by Jones & Stasney on the Brockman lands will be delayed another week as casing is being lowered through 200 feet of open hole to top of saturated lime at 4,688 feet. The well continues to make hourly heads of from 12 to 15 bbls.

In Stonewall County, the new pool opener drilled by Stonewall Oil Co. on the H. T. Carlile lands was deepened 1 foot last week where it showed a considerable increase in production. Operators are still undecided whether to drill deeper or acidize at the present depth of 5,173 feet, where it has been estimated for 350 to 400 bbls. per day.

In Coleman County and 1 mile northwest of Novice, Cooper Brothers and others No. 1 W. R. Stockard, section 29, T.&N.O. Survey, gave indications of opening a new Strawn sand pool. The wildcat drilled 33 feet of sand and sandy lime showing oil from 3,622-55 feet. After the hole filled 1,650 feet with oil in four hours, 7-inch casing was cemented on top of the pay and plug will be drilled this week. No estimates have been made of the well's potentialities, however, the oil tested 41 gravity.

A new wildcat 4 miles northwest of Rule and about 12 miles west of Haskell has been spudded by Indian States Oil Co. as its No. 1 T. P. Jones, scheduled for 4,000 feet. It will test both the Cisco and the Canyon formations and down to the Adams Branch of the Palo Pinto lime.

Hamilton County received a new deep Ordovician wildcat when Wallace & Vickers staked its No. 1 Lund in the northwest quarter of the J. Valley Survey. This wildcat is on the northeast flank of the same structure where Lone Star Gas Co. and Seaboard Oil Co. both have large wells.

WEST CENTRAL TEXAS COMPLETIONS

Brown County

Gilcrease Oil No. 1 Horton, 1,808-20 feet, 106 bbls. Lockhart and others No. 1 Angel, dry and abandoned at 2,803 feet. Moore and others No. 1 Smith, dry and abandoned at 1,596 feet.

Callahan County

Farmout Corp. No. 1 Abel, dry and abandoned at 630 feet. Hickok & Reynolds No. 1 Hickman, 525-38 feet, 8 bbls. Petroleum Drilling Co. No. 1 Cook & Jordon, 4,431-44 feet, 8,900,000 feet of gas.

Coleman County

Coleman and others No. 1 Ford, dry and abandoned at 1,182 feet. Eckholm No. 1 Duty, junked hole at 308 feet.

Concho County

Barnett Petroleum Corp. No. 1 Simms, temporarily abandoned at 162 feet.

Eastland County

Dorothy Oil Co. No. 1 Johnson, dry and abandoned at 1,489 feet.

Fisher County

General Crude Oil Co. No. 4 Barrett, 3,082-90 feet, 283 bbls. Daube Brothers and Forest Development Co. No. 1 Bennett, 3,685-99 feet, 493 bbls.

Jones County

Fain-McGaha Oil Corp. No. 4 Lewis, 1,933-44 feet, 314 bbls. Healey & Walters No. 2 Daughtry, 1,916-32 feet, 305 bbls. Herring and others No. 1 Ellis, dry and abandoned at 2,385 feet. Humble Oil & Refining Co. No. 10 Hollum, 3,234-39 feet, 505 bbls.; No. 11 Hollum, 3,241-48 feet, 488 bbls. Iron Mountain and Humble No. 3 Haterius, abandoned location. Sandy Ridge Oil Co. No. 2 P. Jones, 1,933-55 feet, 94 bbls. Snoddy and others No. 1 Steffens, 1,883-1,909 feet, 127 bbls.

Shackelford County

Fortex Oil Corp. No. 1 Davis, dry and abandoned at 1,477 feet. Hart No. 1 Lones, dry and abandoned at 707 feet. Iron Mountain Oil Co. No. 4 Beck, 1,918-38 feet, 314 bbls.

Stonewall County

P. Jones and others No. 1 Jones, dry and abandoned at 3,584 feet.

Taylor County

Lewis Producing-Montour No. 1 Henslee, dry and abandoned at 2,717 feet.

Throckmorton County

H. Zweifel No. 1 Lee, dry and abandoned at 3,924 feet.

WEST TEXAS FIELD COMPLETIONS

(24-hour tests)

Crane County

Gulf Oil Corp. No. 13 Henderson, 3,512-40 feet, 3,344 bbls.

Ector County

Carter & Naylor No. 5 Parker, 4,070-4,221 feet, 822 bbls. Cities Service Oils No. 6 Bagley, 4,100-4,282 feet, 1,343 bbls. Gulf Oil Corp. No. 113 Goldsmith, 4,175-4,280 feet, 273 bbls. Humble Oil & Refining Co. No. 18-C Scharbauer, 4,070-4,203 feet, 277 bbls. Phillips-Pure No. 33 C. Cowden, 4,120-70 feet, 974 bbls.; No. 36 C. Cowden, 4,120-94 feet, 1,764 bbls. L. H. Wentz No. 3-D Parker, 4,045-4,168 feet, 1,895 bbls.

Gaines County

J. T. Perryman No. 1 Doak, dry and abandoned at 5,129 feet.

North and East Texas

By
D. H. STORMONT

Deep Sand Well in Archer County Promising New Pool

WICHITA FALLS, Tex., Aug. 1.—Archer County's new deep sand well, Fain & McGaha Oil Corp. No. 1 McCrory, in Block 44, A.T.N.C.L. Survey, 4 miles east of the Hull-Silk pool, promises to open a new pool in the area and further stimulate deep drilling throughout the county. Producing from a previously unknown sand encountered from 4,727 feet to 4,758 feet, the wildcat has made several good flows and is estimated for about 150 bbls. daily, flowing through tubing. Producing from the Lower Bend formation, this is the deepest well in Archer County.

Extending the 4,300-foot pay of the Hull-Silk pool in north central Archer County, 1¼ miles to the north, Mazada Oil Corp. and Helmerich & Payne No. 1 Finley was officially gauged at 106 bbls. of oil in 2 hours and 10 minutes. Tubing pressure at the start of the test was 590 pounds and at the close 100 pounds. The well is producing from a saturated section from 4,290 feet to 4,305 feet.

K.M.A. Field

The K.M.A. field of Wichita County received its first major extension in several weeks when Consolidated Oil Co. and Howard No. 1 Mrs. J. J. James, section 16, Block 7, H.&T.C. Survey, topped the saturated sand body at 3,940-68 feet and set casing at 3,939 feet.

Wichita County's first Canyon lime pool which was completed several weeks ago in the southern part of the county, was in prospect for its second producer. The southwest offset to the discovery well cored into 4 feet of saturated sand from 2,622-26 feet, and set casing at 2,622 feet. The discovery well is shut in for pipe line connections at a depth of 2,622 feet after flowing at the rate of 25 bbls. of oil per hour on its last test.

A new 4,000-foot wildcat which will seek production from the prolific Strawn sand producing throughout North Texas, has been staked by Magnolia Petroleum Co. in northern Wichita County. It will be No. 143 Hugh Rielly, J. Ellis Survey, about 3½ miles southeast of Clara. The test is in a shallow producing field in which Magnolia holds over 2,000 acres.

Young County

Young County reported considerable activity over the past week with the possible opening of a new pool and the staking of two new wildcats. Three and a half miles north of the James pool, one of the largest Caddo lime pools in North Texas, Horowitz & Oldom No. 1 C. J. Taack, section 248, T.E.&L. Survey, topped saturation in the Caddo lime at 4,111 feet and penetrated it to 4,136 feet, total depth. Seven-inch casing has been cemented at 4,120 feet. The test was showing gas through a full hole of mud and drilling fluid. Most Caddo lime wells in Young County show little production until treament with acid, after which production ranges from 500 bbls. to 2,500 bbls. per day. Two wildcats in the county, which are scheduled to start drilling, are Christie Brothers No. 1 M. E. Martin, 6 miles west of Graham, in the I. Hill Survey, Abstract A-126, and R. R. Brader and O. Groves No. 1 S. A. Clark, 4 miles southwest of Graham and in section 2, E.L.R.R. Survey, Abstract A-1814.

EASTERN TEXAS

DALLAS, Tex., Aug. 1.—The center of interest in Eastern Texas remained for another week in Kaufman County, where much wildcat activity has been carried on during the past three weeks. One test is now drilling, three locations are staked and several other tests are proposed for the near future. Chief interest was Superior Oil Corp.'s wildcat which is to be drilled by Richards & Holloway, active Flag Lake pool operators. It is in the Fitzgerald Survey. McGee No. 1 Pritchett, near Tolosa, the first test to start drilling in the area, is down 2,610 feet and is credited with basing the Austin chalk 5 feet higher than an old test 600 feet to the southwest. Tyler & Smith are due to start soon on their two tests, one south and the other southeast of Gossett and on the Phoenix Realty lands. Several other wildcats are contemplated, however, exact locations have not yet been announced.

Other New Wildcats

New wildcat tests were announced or started in five other East Central Texas counties. In Anderson County, James H. Gardner staked his Woodbine sand test, No. 1 G. W. West, on a 154-acre tract in the Levi Hopkins Survey, about 3 miles southeast of the little community of Denson Springs and about 2 miles north of the Anderson-Houston County line.

Henderson County received a new wildcat when McElreath & Suggett staked No. 1 T. L. Deen, in the C. M. Walters Survey, 1 mile west of Athens. If a failure in the Woodbine sand, operators may carry it to the Glen Rose of the Lower Trinity.

In Limestone County, J. S. Cosden, Jr. is drilling below 1,500 feet in his new wildcat on the J. S. Bower lands in the H.&T.C. Survey, 1 mile north of Prairie Hill.

A new wildcat test to seek the Woodbine sand production in Van Zandt County has been staked by King Oil Co. as its No. 1 Watson in the Whitaker Survey, about 5 miles south of Grand Saline.

First 5,000-foot test for many months was given Hill County when N. Buie and Wilmer Simms completed blocking 10,000 acres and staked their first test on the N. Buie farm. It is in the southeastern part of the county.

EAST CENTRAL TEXAS COMPLETIONS

(24-hour tests)

Franklin County

In the Talco pool, Humble Oil & Refining Co. No. 4 Norman & Prince, 4,223-91 feet, 229 bbls.

Freestone County

In the Cayuga pool, Amerada Petroleum Corp. No 5 H. Berk, 4,001-26 feet, 182 bbls.

Henderson County

In the Cayuga pool, F. M. Allison Production Co. No. 8 A. W. Pettiette, 4,082-4,102 feet, 173 bbls. L. V. Marmar No. 2 Ike Brown, 4,100-03 feet, 130 bbls.

Titus County

In the Talco pool, Humble Oil & Refining Co. No. 3 C. W. Graft, 4,214-91 feet, 253 bbls.

EAST TEXAS FIELD COMPLETIONS

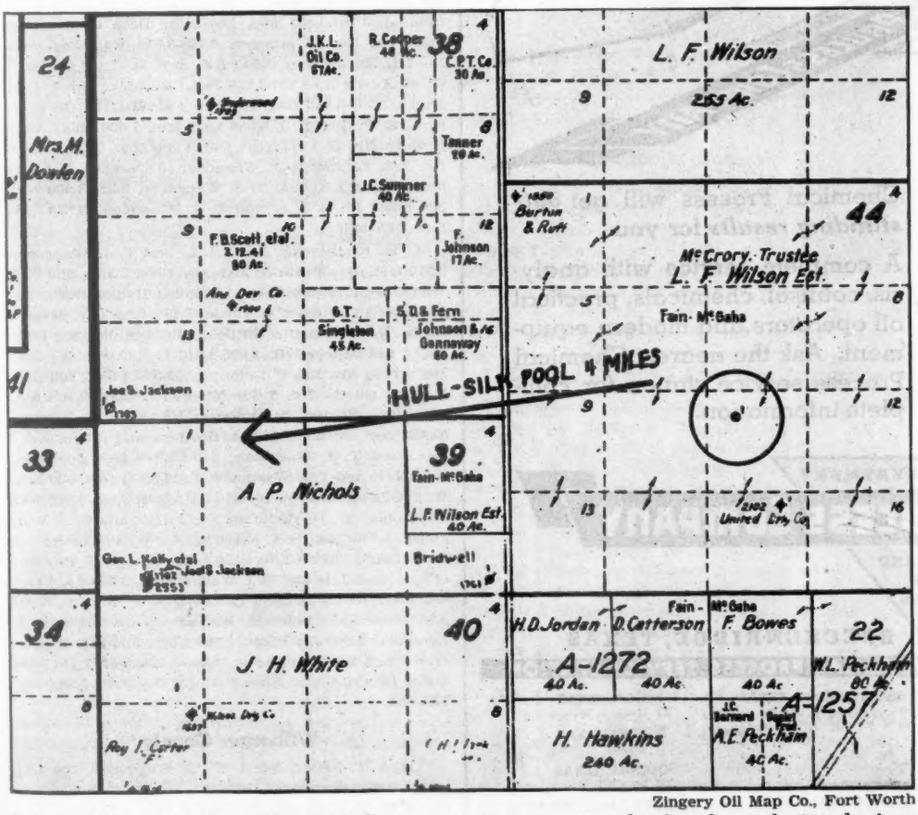
(One-hour tests)

Gregg County—Longview Area

Arkansas Fuel Oil Co. No. 9 W. T. Hestead, 3,617-37 feet, 64 bbls. Humble Oil & Refining Co. No. 16 G. W. Willingham, 3,640-3,708 feet, 40 bbls.

Gregg County—Kilgore Area

Magnolia Petroleum Co. No. 42 J. Radford, 3,672-74 feet, 50 bbls. Overton Refining Co. No. 23 I.&G.N.R.R., 3,544-73 feet, 30 bbls. Shell Petroleum Corp. No. 7 D.



Zingery Oil Map Co., Fort Worth

Fain-McGaha Oil Corp. No. 1 McCrory promises to open the fourth producing horizon for Archer County. Depth of hole is 4,727-58 feet

Carr, 3,410-67 feet, 54 bbls. Tide Water Associated Oil Co. No. 6 J. B. Watson, 3,580-3,603 feet, 60 bbls.

Rusk County—Kilgore Area

Delta Oil Co. No. 9 C. E. Christian, 3,643-44 feet, 64 bbls. T. D. Donnel No. 6-B Crews-Everet, 3,810-11 feet, 25 bbls. Humble Oil & Refining Co. No. 15 J. Wooley, 3,651-80 feet, 80 bbls. Magnolia Petroleum Co. No. 12 Nat Bean, 3,514-32 feet, 5 bbls.

Rusk County—Joiner Area

Atlantic Refining Co. No. 16 H. L. Griffin, 3,562-3,649 feet, 25 bbls. R. E. Fair, Inc. No. 18 B. F. Maxwell, 3,696-3,745 feet, 60 bbls. Gulf Oil Corp. No. 21 E. E. Thrash, 3,762-70 feet, 25 bbls. W. B. Hamilton No. 22 L. A. Gambrel, 3,671-72 feet, 60 bbls. F. G. Lippitt No. 3 G. W. Eaton, 3,756-62 feet, 60 bbls. Ohio Oil Co. No. 19 J. F. Mason, 3,652-3,701 feet, 44 bbls. Overton Refining Co. No. 2 Pool, 3,765-83 feet, 60 bbls. Shell Petroleum Corp. No. 21-A H. Brooks, 3,638-3,730 feet, 25 bbls.; No. 22-A H. Brooks, 3,664-3,742 feet, 60 bbls. Stanolind Oil & Gas No. 11 R. G. and T. D. Mason, 3,602-13 feet, 36 bbls. Stewart No. 4 Giles, 3,696-3,721 feet, 30 bbls. Sutton-Hawkins No. 8 R. J. Vinson, 3,580-95 feet, 20 bbls. Tex-Jersey Oil No. 5-B W. P. Keeling, 3,649-3,760 feet, 65 bbls. Tide Water Associated Oil Co. No. 32 L. J. Pinkston, 3,745-82 feet, 60 bbls.

Smith County—Joiner Area

Sinclair Prairie No. 6 Wright Consolidated, 3,688-3,702 feet, 40 bbls.

Upshur County—Longview Area

Atlantic Refining Co. No. 22 H. W. Mayers, 3,560-3,660 feet, 45 bbls.

NORTH TEXAS COMPLETIONS

Archer County

Cable Oil Co. No. 15 C. Webb, 708-17 feet, 5 bbls. W. L. Hawkins No. 10 W. R. Pace, 1,202-1,220 feet, 3 bbls. Mazda Oil Co. No. 1 W. T. Finley, 4,281-4,305 feet, 1,272 bbls. Reno Oil Co. No. 10 H. Wilmot, 3,773-3,800 feet, 60 bbls. H. A. Schaeffer No. 3 W. P. Ferguson, 3,830-78 feet, 480 bbls. Shappell Oil Co. No. 5 Bell, 1,000-26 feet, 125 bbls.; No. 6 Bell, 997-1,009 feet, 135 bbls. White & Duncan No. 2 W. P. Ferguson, 3,822-3,879 feet, 504 bbls.

Baylor County

J. F. Morrisey Co. No. 1 J. White, 100 feet, temporarily abandoned. Wilcox Oil & Gas Co. No. 1 W. H. Portwood, 5,560 feet, dry. Riddels, Pipes & Holcomb No. 1 Nichols, abandoned location.

Clay County

L. L. Deaton No. 1 O. T. Roach, 253 feet, dry. Marvin Hudson No. 2 State Lands, 1,075-1,107 feet, 225 bbls. Metzner & Burns No. 6 Thornberry A, 1,095-1,111 feet, 17 bbls. J. M. Tanner No. 5 G. D. Rigsby, 203-22 feet, 10 bbls.

Cooke County

Kewanee Oil Co. No. 13 Lanier B. abandoned location. F. W. Merrick, Inc., No. 5 J. H. Otto, 1,221-44 feet, 10 bbls. Trumter Petroleum Co. No. 3 F. Truebenbach, 812-23 feet, 85 bbls.; No 4 F. Truebenbach, 805-26 feet, 75 bbls.

Jack County

Big 6 Oil Co. No. 3 E. F. Smith, 2,887-2,947 feet, 20 bbls. Cowboy Evans No. 1 Mrs. M. L. Durham, 507 feet, dry. G. M. Gillespie No. 2 O. Loving, 3,259 feet, dry. G. C. Gilmore No. 1 J. M. Martin, 323 feet, dry. Harper Petroleum Co. No. 1 Mary E. Norman, 1,936-40 feet, 110 bbls. Martex Oil Co. No. 3 A. B. Kuykendall B, 3,089-3,254 feet, 400 bbls. McKee & Mullens No. 1 R. Wilson, 427 feet, dry.

Montague County

Martin & Hines No. 4 J. W. King, 1,595-1,616 feet, 110 bbls. Seitz & Comegys No. 6 J. W. King, 1,747-1,753 feet, 275 bbls.

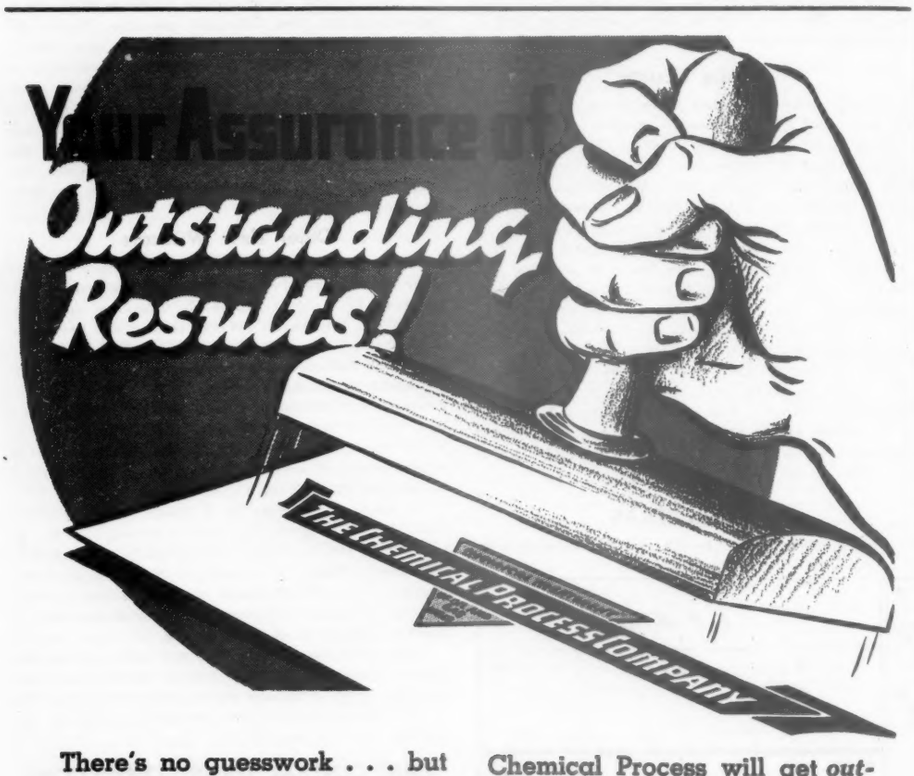
Wichita County

A. E. Blair No. 1 W. B. Honaker, 390-400 feet, 5 bbls. Bolin & Whittington No. 4 J. L. and T. J. Waggoner, 3,932-3,952 feet, 1,520 bbls. Bridwell Oil Co. No. 4 First National Co. B, 3,725-3,900 feet, 480 bbls. British American Oil Producing Co. No. 1 N. H. Martin, abandoned location; No. 2 N. H. Martin, abandoned location; No. 3 N. H. Martin, abandoned location. L. T. Burns No. 23 Waggoner Brothers, 3,827-4,012 feet, 20 bbls. Cable Oil Co. No. 29 J. E. Roller, 327 feet, dry; No. 30 J. E. Roller, 300 feet, dry. Christie Hickman Drilling Co. No. 8 W. P. Bolding, 3,761-3,851 feet, 800 bbls. Deep Oil Development Co. No. 18 Munger, 3,769-3,880 feet, key well: No. 1 L. Mackechney, 5,545 feet, dry. E. C. Oil Co. No. 1 G. W. Lewis A, 3,754-3,819 feet, 720 bbls.; No. 2 J. F. Miller, 3,740-3,810 feet, 75 bbls. Fain-McGaha Oil Corp. No. 2 E. P. Griffin B, 3,683-3,837 feet, 1,600 bbls.; No. 3 E. P. Griffin B, 3,717-3,844 feet, 1,200 bbls. J. E. Farrell No. 2 J. L. and T. J. Waggoner, 3,838-3,890 feet, 528 bbls.; No. 3 J. L. and T. J. Waggoner, 3,850-3,909 feet, 528 bbls.; No. 4 J. L. and T. J. Waggoner, 3,829-3,884 feet, 565 bbls

C. H. Featherston No. 1 J. L. and T. J. Waggoner, 3,915 feet, dry. Fulwood and others No. 1 J. L. and T. J. Waggoner, 3,736-3,860 feet, 1,200 bbls. Hanlon-Buchanan, Inc., No. 1-D Fassett & Tuttle, 5,434 feet, dry Manson Oil Co. No. 3 Fassett & Tuttle, 3,920-3,966 feet, 880 bbls.; No. 4 Sue Mitchell B, 3,895-3,846 feet, 928 bbls. Alex McCutchin No. 2 L. C. Denny, 3,759-3,914 feet, 200 bbls. Mitchell Oil Co. No. 3 Sue Mitchell C, 3,815-3,866 feet, 830 bbls. Mogren & Anderson No. 8 C. A. Mertens, 927-38 feet, 50 bbls. Moran Brothers and others No. 3 J. L. and T. J. Waggoner, 3,811-3,849 feet, 500 bbls.; No. 4 J. L. and T. J. Waggoner, 3,817-3,851 feet, 500 bbls. W. B Omohundro No. 10 W. L. Hodges, 3,650-3,847 feet, 1,280 bbls. W. H. Peckham No. 3 J. L. and T. J. Waggoner, 3,750-3,833 feet, 584 bbls. D. W. Power No 6-A L. C. Denny, 580-602 feet, 20 bbls. George B. Ray and others No. 1 J. L. and T. J. Waggoner B, 3,779-3,823 feet, 792 bbls. Retsal Drilling Co. No. 1 N. H. Martin, 3,600-3,860 feet, 1,184 bbls. H. W. Roberts Co. No. 3 R. L. Kempner, 3,860-3,892 feet, 1,209 bbls. Showers & Moncrief No. 2 W. P. Ferguson, 3,690-3,805 feet, 1,744 bbls. Staley Oil Co. No. 12 First National Co., 3,835-3,883 feet. 232 bbls

Wilbarger County

Lloyd H. Brown No. 1 W. T. Waggoner, 100 feet, temporarily abandoned location. Golding & Cochran No. 3 W. T. Waggoner S, 1,524-38 feet, 115 bbls. Phillips Petroleum Co. No. 26 W. T. Waggoner, 3,746-3,765 feet, 347 bbls.



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Michigan Field Report

By
O. C. PRESSPRICH

Heavy Drilling Play Begun Around Latest Oil Strikes

SAGINAW, Mich., Aug. 1.—Heavy drilling play has begun in the territory immediately surrounding Michigan's two latest oil strikes, in Clare and Allegan counties, 100 miles apart. Permits already have been issued for five tests in the vicinity of the Clare strike, five nearby the Allegan discovery and many more locations are being staked and cleared in the solidly-leased territory surrounding both the wildcat producers.

These figures do not take into consideration an assortment of tests going down in Salem and Monterey townships of Allegan County, adjoining Overisel, scene of the latest Michigan oil discovery, on the theory that the Overisel Township find indicates an extension of either the Monterey or Salem pool.

Names important in the oil picture in Michigan appear among the operators in both of the new wildcat districts. The Clare area, for example, has tests in progress by Socony-Vacuum Oil Co., Gulf Refining Co., Pure Oil Co., McClanahan Oil Co., J. V. Wicklund Development Co. and others. In the Overisel district in Allegan County Lentz & Miller, Inc., are the best known operators. In both districts the discoverers are drilling second wells.

Meantime Michigan's expanding oil territory bumped squarely against its poorest numerical showing in many months—nine dry holes against seven producers. The Allegan County fields accounted for four dry holes and two producers; Buckeye had two dry and two producers; Edenville one producer and one dry hole, and Gratiot and Wexford counties listed one dry hole each, no producers.

Besides the seven new wells which added their flows to Michigan's steadily rising daily potential, there were two others which made favorable showings in the semi-completed state and appeared due to come into production soon.

The Overisel-Allegan County wildcat, William J. Cline No. 1 Aldrich, NE SW SE section 36-4n-10w, which tapped comparatively unexplored territory a week ago to focus Michigan oil interest in a new sector, continued to produce prolifically. It was gauged at 800 bbls. naturally, and for the time, at least, will not be treated.

Gladwin County—Buckeye Township

Buckeye's established fields developed oddities with two producers in the north pool in comparatively undeveloped sectors dividing attention with two dry holes in the south (Oard) pool. All were more or less boundary tests, although considered in proven areas. Sun Oil Co. led the north Buckeye (Wicklund) producers with an important west extension in the north part of the north pool, No. 2 Henderson, SE SW SE section 4-18n-1w, which was acidized to 150-bbl. daily production. The test is said to indicate possibilities of western extension drilling in the north area, and was looked on as the most significant boundary extension in the north sector in some time.

Meanwhile, to the east, in the north part of the pool, E. A. Bovell No. 1 State, SW SW SE section 2, came in a 75-bbl. producer after acid. The 40-acre lease, which is eight locations due north of the Wicklund discovery well in the area, had not been previously tested. While apparent boundary extensions in the north area were successful, the south (Oard) pool hit unproductive bottom in two western edge tests. The two dry holes were the exception rather than the rule in Buckeye, and their locations caused geologists to wonder whether the western boundary of the south portion of the pool was indicated. Marshal H. Baumann No. 1 Maier, NE SW NW section 35-18n-1w, dry in the Dundee limestone, was abandoned. It is a western outpost in the extreme south part of the field. There is production farther west in section 27, off to the northwest, where the second dry test of the week was tapped in Buckeye. This was Pollock-Sobezyk No. 2 Campbell, SE NW SE section 27. This test likewise a western outpost in section 27, two locations south and two west of the Caldwell-Hostetler producing well which opened section 27 to exploration. Geologists pointed to the two dry holes in the same area as being just outside of the northwesterly-southeasterly trend of production which apparently dominates the Buckeye field. As the dry hole came in in section 27, Kales-Graves Co. No. 1 State Bank of Vassar, NW NE SE section 27, gave a good indication of being a favorable producer. It was scheduled for acid and completion within a week and is the second well brought in on the lease.

Bentley Township added an apparent commercial producer at Robert King No. 1 Bank of Saginaw, SE SE SE section 20-17n-2e, which gauged an estimated 60 bbls. daily on early reports.

Allegan County

Dry tests outnumbered new producers two to one in Allegan fields, with four failures in Dorr and Monterey townships completed as against two new producers, one in each township. Only the highly satisfactory showing of the new Overisel wildcat, and the attendant scurry of exploration indicated last week, tended to balance the scales. Columbia Oil & Gas Co. No. 5 Richter led the established fields in new production with a 200-bbl. daily producer in the NE SE SE section 30-4n-12w. T. F. Caldwell No. 1 Gosling, NE NW SE section 10-4n-12w, and Lentz & Miller No. 1 Graszyk, NE SE NW section 30-4n-12w, were the two dry holes in Dorr Township. Rex Oil & Gas Co. brought in a small producer in Monterey Township at its No. 2 Hartman, NE SE SE section 8-3n-13w, the only addition of the week in the field. Diamond Springs Syndicate No. 1 Jones, SE SE SW section 4-3n-13w, and Gordon Van Eenenaam No. 2 Miller, SW NE NW section 16-3n-13w, were the two failures in Monterey.

Isabella County

Two active tests topping Michigan production of the week returned Sherman Township to the active producing pools. Both were tests of Pure Oil Co. Its No. 9-B McClintic, NW NW SW section 33-15n-6w, rated acidized production of 300 bbls. daily, and its No. 5 Baker, N half S half NW section 33-15n-6w, was gauged at 200 bbls. daily after acid. Pure Oil Co. controls all of the active drilling tests in Sherman.

Midland County—Edenville Township

Only commercial producer of the week in Edenville was Sun Oil Co. No. 8-B State-Edenville, SW NE NE section 27-16n-1w, which ran its best 24-hour gauge at 237 bbls. It was an inside location test in the discovery section. It will probably be tubed and treated later. Sun Oil Co. No. 1-C State Edenville, NW NW SW section 26, was definitely marked as a failure this week. Last week the test appeared headed for abandonment after it failed to take acid. It logged 150 feet of oil in the hole naturally, but the show vanished under treatment. Sun No. 1-C State-Edenville well was a south offset to a producer in the eastern sector of the field, and was viewed as a boundary marker in this section. Only one other test was reported nearing the Dundee pay zone in Edenville.

Jerome Township

Sun Oil Co.'s deep test, probing the Monroe and scheduled as a possible Sylvania formation project, was shutdown late last week at 4,769 feet in the Detroit River series (Monroe). The test is in section 9-15n-1w, 3 miles southwest of the Edenville pool proper. A show of oil and gas was encountered at 4,642 feet but acid treatment failed and drilling continued to the present depth. While operators planned to go to the Sylvania formation, immediate plans were indefinite.

Clare County—Freeman Township

Activity on tests to confirm the Higelmire discovery well in section 3 remains brisk, while Simrall Pipe Line Corp. announced near completion of a 4-inch pipe line to handle the output of the Van Horn well. Four miles of the line from the discovery well to Lake George were finished last week. Simrall also announced a price of $1.09½ per barrel on the Clare oil for the Freeman-Redding district, which compares with the price paid for Buckeye, Bentley and Edenville oil. The Clare oil is reported high in specific gravity, testing 43.

Gratiot County

A wildcat test in New Haven Township failed to net commercial production, and was slated for abandonment. It was Victory & Rex Petroleum Co. No. 1 Thum, SE SW NW section 13-10n-4w.

Wexford County

Failure marked the attempt of G. H. Schrack No. 1 fee, SW NW SW section 17-22n-9w, to gain commercial production. A show was encountered at 3,888 feet, and further testing and deepening to 3,918 feet failed to rate a commercial producer.

Southwest Texas Fields

(Continued from Page 75)

bbls., eighth-inch choke. Wildcat: I. J. Allen No. 2 Rooke, Woodsboro area, total depth 6,907 feet, perforated casing 5,395-5,400 feet, 30 bbls. distillate, three-sixteenths inch choke, tubing working pressure 2,100 pounds, casing pressure 2,150 pounds.

Starr County

LaReforma field: Wheelock & Collins No. 1-A Guerra, total depth 7,010 feet, 7-inch casing 6,582 feet, perforated casing 5,917-25 feet, 28 bbls. distillate in 12 hours, quarter-inch choke. Barbacoas field: Henshaw Brothers No. 1 Mayorga, abandoned 2,772 feet. Weekley Oil Corp. No. 2-C Guerra, sand 2,852-62 feet, 100 bbls. in 12 hours, eighth-inch choke, 80 pounds working pressure.

Victoria County

Heyser field: George Echols No. 3-B Lander, total depth 5,601 feet, 7-inch casing 5,601 feet, perforated casing 5,486-94 feet, 8 bbls. per hour, 7/64-inch choke, tubing pressure 600 pounds, casing pressure 610 pounds. East Placedo field: Stanolind Oil & Gas Co. No. 2 Vandenber & Hill, total depth 6,381 feet, 7-inch casing 5,402 feet, perforated 5,300-05 feet, 2 bbls. distillate with 2,500,000 feet gas, three-eighths inch choke, tubing pressure 1,420 pounds, casing pressure 1,575 pounds. East Telferner field: Harry L. Edwards No. 1 Carpenter, total depth 5,651 feet, abandoned.

Val Verde County

Wildcat: Val Verde Oil Co. No. 1 Whitehead, abandoned 451 feet. Same operator's No. 2 Whitehead, abandoned at 318 feet.

Webb County

Oilton field: O. W. Killam No. 1 Herrera, 6 bbls. net oil, 1,992 feet.

Zapata County

Wildcat: C. H. Lewis No. 1 Garza, abandoned at 1,505 feet.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, July 30.—Complete official returns show that crude production from all Canadian fields in May reached a new high of 566,086 bbls. (18,261 bbls. per day), compared with 464,316 bbls. (15,477 bbls. per day) in April and 192,845 bbls. (6,221 bbls. per day) in May, 1937. New Brunswick production was up from 3,417 bbls. in April to 3,728 bbls. in May; Ontario production increased from 13,658 to 15,639 bbls. and Alberta production from 447,241 to 546,719 bbls.

In West Central Turner Valley, Vulcan-Brown Petroleums No. 1, LSD 10, section 5-19-2w5, finished at 7,459 feet with 4,528 bbls. open flow and 3,018 bbls. temporary potential, has finished an 11-day official test. The 24-hour open flow was 5,208 bbls., with potential set at 3,472 bbls., making it the second largest crude producer in the field. It will be prorated at 37 per cent of potential.

In section 17-18-2w5, Sundance Royalties No. 1, LSD 9, finished at 7,410 feet with official potential of 2,572 bbls., was acidized with 5,000 gallons, increasing its open flow to 4,689 bbls. with 3,126 bbls. potential. Coronation Royalties No. 1, LSD 15, same section, finished at 7,572 feet with 582 bbls. temporary potential, is making official test after acidizing with 9,000 gallons.

In section 20-18-2w5, United-Brown Petroleums No. 5, LSD 1, finished at 7,303 feet with 789 bbls. temporary potential has been tested after acidizing, and showed 1,732 bbls. open flow with 1,155 bbls. potential.

In section 29-18-2w5, Globe Royalties No. 1, LSD 7, finished at 7,403 feet with around 420 bbls. natural production, is gun-perforating the formation and acidizing to increase production.

In section 32-18-2w5, West Turner Petroleums No. 3, LSD 7, finished at 7,150 feet, started flowing at 52 bbls. an hour, later settling to around 750 bbls. a day. It will be acidized before making official test. The company was financed by Vancouver, British Columbia, capital, with Robert Wilkinson of Calgary as president and Frank M. McMahon of Vancouver as vice president.

Tests in the Lime

Mercury Royalties No. 1, LSD 8, section 5-19-2w5, is below 6,500 feet after getting the Madison limestone at 6,114 feet. It will get the producing horizon in a few days. Location is about one-fourth mile southeast of Vulcan-Brown No. 1 producer, in West Central Turner Valley.

In section 29-18-2w5, Royalite Oil Co. No. 31, LSD 6, is below 7,619 feet after getting the limestone at 7,590 feet. Royalite No. 32, LSD 8, section 17-18-2w5, is below 6,822 feet after getting the Madison at 6,800 feet.

West Flank Drilling

In section 5-19-2w5, West Central Turner Valley, Royalite Oil Co. No. 34, LSD 7, is below 1,005 feet. Royalite No. 33, LSD 2, is below 6,371 feet.

In section 6-19-2w5, East Crest Oil Co. No. 4, LSD 8, is changing to rotary outfit after cementing 10-inch casing at 2,340 feet.

In section 32-18-2w5, Freehold Oil Corp. No. 7, NE LSD 14, is working on cellar. Location is about three-fourths mile south of Vulcan-Brown No. 1 producer. In section 29-18-2w5, Commoil No. 2, LSD 10, is below 6,821 feet. In section 20-18-2w5, Consolidated Royalties No. 1, LSD 14, is below 6,897 feet. Sunset Oils No. 2, LSD 7, is below 6,520 feet. York Oils No. 1, LSD 2, is below 6,500 feet.

In section 17-18-2w5, Extension Royalties No. 1, LSD 14, is below 3,288 feet. Anglo-Canadian Oil Co. No. 3, LSD 10, offsetting Sundance No. 1 producer to the west, is below 967 feet.

Okalta Deep Test

West of the Turner Valley crude area, Okalta Oil Co. No. 6, LSD 3, section 30-18-2w5, is in the Dalhousie sands below 9,350 feet and getting close to the Madison lime. From the top of the Blairmore, the formations have logged closely with the same horizons in Turner Valley.

Anglo-Canadian Oil Co. No. 1, LSD 16, section 31-18-2w5, is below 3,823 feet.

North Turner Valley

On the west flank of North Turner Valley, Phillips Royalties No. 1, LSD 16, section 16-20-3w5, is below 7,275 feet, and again drilling in the Blairmore formation after encountering a slight turnover of the Benton.

Tests in the Foothills

On the Highwood-Sinclair structure, southwest of Turner Valley, Green Valley Oils No. 1 Banner, LSD 6, section 34-17-3w5, is in softer limestone below 6,059 feet. It is practically 700 feet in the Madison, but the formation is thought to be thicker than in Turner Valley, and a porous producing horizon is expected around 6,100 feet.

On the Hunter Valley structure, west of Olds, Hunter Valley Oil Co. No. 1 McLaren, LSD 12, section 13-31-10w5, is dismantling equipment and abandoning the well at 8,274 feet. At this depth it had not reached the Madison limestone. No announcement has been made as to further work, though last fall it was expected a second test would be undertaken higher on structure.

East Side Drilling

On the New Valley structure northeast of Turner Valley, McLeod Oil Co. No. 1, LSD 4, section 6-21-2w5, bottoming at 8,462 feet, is cleaning out and bailing considerable crude.

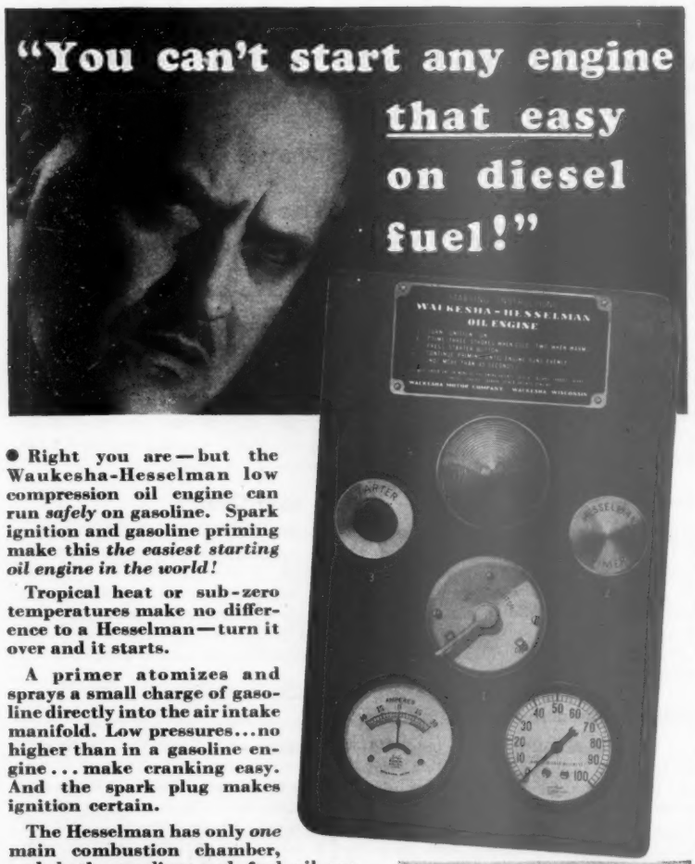
Bearberry Structure

The Bearberry structure, in the old Monarch field, north of Calgary and about 35 miles west of Olds, will be tested by Petroleum Structures, Ltd., a new organization, which has acquired 41,000 acres on the structure. Petroleum Structures No. 1, in LSD 4, section 2-33-7w5, is working on derrick, and will likely spud early in August. Contract has been let to Drilling Contractors, Ltd., and rotary equipment will be used.

The area was first tested in 1914 at the time of the Calgary boom, when Mount Stephen Oil Co. was drilled to 4,500 feet, finding gas shows at 147 and 2,900 feet; and Monarch Oil Co. No. 1, section 5-32-6w5, uncovered black crude at 808 feet and was later abandoned at 3,608 feet.

The structure, lying in the east fold of the foothills, is similar geologically to Turner Valley, about the same length, 15 miles, but 3 miles wide, about double the width. On the east flank dips are 10 to 27 degrees and on the west 26 to 27 degrees compared with east dips of 45 to 80 degrees and west dips of 25 to 55 degrees in Turner Valley. The structure lies within Townships 32, 33 and 34, Ranges 6, 7 and part of 8, the James River traversing the north and the Red Deer River the south end. From a high between the two rivers there is a definite plunge to both north and south, with definite evidences of north and south closure. There is no evidence, however, of an overthrust fault similar to that on the east side of Turner Valley. The Madison limestone is expected around 8,000 feet.

Petroleum Structures, Ltd., will have its head office at Calgary and is jointly financed by the Canadian Western Natural Gas, Light, Heat & Power Co., Anglo-Canadian Oil Co., Calgary & Edmonton Corp. and Vancouver interests. Directors include H. R. Milner of Edmonton, president of the Canadian Western company; Francis P. Byrne, vice president and managing director of the Anglo-Canadian Oil Co.; Col. L. D. M. Baxter of the Calgary & Edmonton Corp. and Neil McQueen of Vancouver.



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WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S. T. R.	Depth	Status—
Wilshire Oil, No. 1 Hollister, Gaviota, Santa Barbara	35- 5-33	4,650	P.B. 4,292
Montgomery, H. S., No. 1 Wagner, Capitan, S. Barb.	tideland	1,302	idle
Shell Oil, No. 1-27 Covarrubias, Capitan, S. Barbara	32- 5-30	968	sd. sh. drlg.
South Crude Oil, No. 2-191, Coal Oil Point, S. Barb.	tideland	5,510	idle
Carpinteria Oil, No. 1 Carpinteria, Santa Barbara	32- 4-25	2,440	idle
Hancock-Bush, No. 4 Hopkins, Santa Maria, S. Barb.	30-10-33	4,278	pump 350 b.d.
Hancock-Bush, No. 3 Cal. Lands, Santa Maria, S. Barb.	30-10-33	3,670	sd. sh. drlg.
Moore, E. H., No. 10 Sugar, Santa Maria, Santa Barb.	19-10-34	5,157	pump 40 b.d.
Union Oil, No. 2 Wheat, Santa Maria, Santa Barbara	22-10-34	3,945	cleaning out
Union Oil, No. 5 Vincent, Santa Maria, Santa Barbara	25-10-34	4,635	flow 1,170 b.d.
Union Oil, No. 2 Malory, Santa Maria, Santa Barbara	27-10-34	4,545	sd. sh. drlg.
Sunshine Oil, No. 1 Girard, Santa Maria, Santa Barb.	27-10-34	4,192	pump 530 b.d.
Greathouse Oil, No. 1 Fortier, Santa Maria, S. Barbara	27-10-34	3,761	sd. sh. drlg.
Standard Oil, No. 1, Cat Canyon, Santa Barbara	27- 9-33	6,283	sd. sh. drlg.
Douglas Oil, No. 1 Stratton, Los Alamos, Santa Barb.	8- 8-33	6,238	pump water
Barnsdall Oil, No. 3 Tognazzini, Gato Ridge, S. Barb.	9- 8-32	3,800	pump 575 b.d.
Petrol Corp., No. 511 Magenheimer, Gato Ridge, S. B.	9- 8-32	2,081	sd. sh. drlg.
United West. Oil, No. 1 Los Olivos, Santa Barbara	16- 7-30	3,270	idle
Oceanic Oil, No. 1 Santa Barbara Mesa, Santa Barb.	28- 4-27	2,049	Sespe test
High Mesa Oil, No. 1 Butcher, Ojai, Ventura	16- 4-22	1,691	fishing
Holly Dev., No. 1 Macrate, Ojai, Ventura	27- 4-23	3,550	br. sh. drlg.
Ventura Drlg. Co., No. 1, Ojai, Ventura	10- 3-23	168	sd. sh. drlg.
Texas Co., No. 5 Yale, South Mountain, Ventura	13- 3-21	6,125	fish D.P.
Merchants Pet., No. 1, Sespe, Ventura	1- 4-20	761	hd. sh. drlg.
St. Louis Oil, No. 1 Williamson, Sespe, Ventura	1- 4-20	510	cleaning out
Stalling & Senter, No. 1, Timber Canyon, Ventura	24- 4-21	1,440	sd. sh. drlg.
Section 20 Oil, No. 1, Sespe, Ventura	20- 5-19	1,765	sd. sh. drlg.
McKinnis, C. R., No. 1 Hopper Canyon, Ventura	14- 4-19	216	sd. sh. drlg.
Darby Oil, No. 1 Cohn, Moor Park, Ventura	7- 2-19	3,915	rd. sd. drlg.
Continental Oil, No. 9 Grubb, San Miguelito, Ventura	24- 3-24	2,587	sd. sh. drlg.
C.C.M. Oil, No. 7 Oakgrove, Padre Canyon, Ventura	23- 3-24	3,050	br. sh. drlg.
C.C.C. Oil, No. 7-C Hobson, Rincon, Ventura	17- 3-24	1,952	sd. sh. drlg.
Richfield Oil, No. 8-F Hobson, Rincon, Ventura	8- 3-24	3,150	flow 265 b.d.
Tide Water A. O., No. 39 V.L.W., Ventura Ave., Vent.	24- 3-23	6,294	sd. sh. drlg.
Tide Water A. O., No. 75 Lloyd, Ventura Ave., Vent.	26- 3-23	6,141	sd. sh. drlg.
Tide Water A. O., No. 111 Lloyd, Ventura Ave., Vent.	27- 3-23	9,570	hd. sh. drlg.
Tide Water A. O., No. 127 Lloyd, Ventura Ave., Vent.	27- 3-23	7,096	sd. sh. drlg.
Tide Water A. O., No. 7 Hartman, Ventura Ave., Vent.	22- 3-23	6,301	sd. sh. drlg.
Tide Water A. O., No. 11 McGonigle, Vent. Ave., Vent.	23- 3-23	7,790	hd. sd. drlg.
Shell Oil, No. 96 Taylor, Ventura Ave., Ventura	28- 3-23	7,076	sd. sh. drlg.
Shell Oil, No. 31 Edison, Ventura Ave., Ventura	20- 3-23	7,798	fish tubing
Shell Oil, No. 37 Gosnell, Ventura Ave., Ventura	28- 3-23	8,618	P.B. 8,470
General Pet. Corp., No. 18 Barnard, Vent. Ave., Vent.	21- 3-23	7,772	C.P. 4,861
Lloyd Corp., No. 2 Dabney-Lloyd, Ventura Ave., Vent.	24- 3-23	2,482	sd. sh. drlg.
Goodrum, George, No. 1 Baron, Devils Den, Kern	24-25-18	1,190	may deepen
Gibson Oil, No. 3 Alferitz, Devils Den, Kern	14-25-18	690	hd. sd. drlg.
Franco-Western Oil, No. 15, McKittrick, Kern	8-30-22	2,196	pump 230 b.d.
Lyse & Sonne, No. 1 Pasadena, McKittrick, Kern	28-30-22	3,940	br. sh. drlg.
Randan Pet. Co., No. 1 Theta, Lost Hills, Kern	3-26-20	1,625	cleaning out
Shell Oil, No. 1 Voight, Antelope Plains, Kern	32-27-20	910	dry; abd.
Tide Water A. O., No. 22-3, North Belridge, Kern	22-27-20	1,597	sd. sh. drlg.
Richfield Oil, No. 2 Belridge, North Belridge, Kern	22-27-20	7,872	br. sh. drlg.
Texas Co., No. 4 Martin, North Belridge, Kern	22-27-20	8,171	fish D.C.
Crestmont Oil, No. 4 Staley, Round Mountain, Kern	8-28-29	1,645	pump 280 b.d.
Honolulu Oil, No. 47, Round Mountain, Kern	20-28-29	1,983	sd. sh. drlg.
Honolulu Oil, No. 48, Round Mountain, Kern	20-28-29	2,011	pump 50 b.d.
Ring Oil, No. 1 L. & S., Round Mountain, Kern	11-28-28	1,493	sd. sh. drlg.
Amerada Pet., No. 1 Olcese, Round Mountain, Kern	4-29-29	1,220	sd. sh. drlg.
Kern Oil, No. 25-3-C, Kern Front, Kern	25-28-27	922	sd. sh. drlg.
Oils, Inc., No. 4 Seven Spot, Kern River, Kern	13-28-27	1,251	pump 40 b.d.
Helm & Smith, No. 5-A Kernco, Kern River, Kern	34-28-28	575	fishing
Barnhart & Morrow, No. 1 Zanetti, Kern River, Kern	19-28-28	1,185	cleaning out
Barnhart & Morrow, No. 5 KCL, Kern River, Kern	11-28-27	1,650	sd. sh. drlg.
Hast Oil, No. 4 Kern, Kern River, Kern	34-28-28	240	sd. sh. drlg.
Crestmont Oil, No. 1 Durnal, Mount Poso, Kern	24-27-28	931	dry; abd.
B-A Oil, No. 1 Glide, Mount Poso, Kern	31-27-28	1,770	gr. sd. drlg.
Federal Drlg., No. 3 Glide, Mount Poso, Kern	13-26-28	962	sd. sh. drlg.
Western Gulf Oil, No. 4 Sawyer, Fruitvale, Kern	27-29-27	3,837	O.S. drlg.
Western Gulf Oil, No. 37-B, KCL, Fruitvale, Kern	14-29-27	3,001	flow 252 b.d.
Texas Co., No. 1 Lowe, Fruitvale, Kern	7-29-27	7,480	hd. sh. drlg.
Meridian Oil, No. 4 fee, Fruitvale, Kern	23-29-27	3,055	pump 235 b.d.
Hogan Pet., No. 3 Peters, Mountain View, Kern	5-31-29	5,460	cleaning out
Stevens, R. W., No. 1, Caliente Creek, Kern	22-30-30	1,104	granite; abd.
Continental Oil, No. 3-A, KCL, Wasco, Kern	8-27-24	11,278	sd. sh. drlg.
Continental Oil, No. 1 Seaboard, KCL, Wasco, Kern	26-27-24	12,778	sd. sh. drlg.
Standard Oil, No. 8-1-B, KCL, Wasco, Kern	17-27-24	10,630	sd. sh. drlg.
Standard Oil, No. 1 Mushrush, Wasco, Kern	7-27-24	8,770	sd. sh. drlg.
Superior Oil, No. 3 Geissinger, Bravo, Kern	35-28-25	11,086	sd. sh. drlg.
Superior Oil, No. 1 Anderson, Rio Bravo, Kern	35-28-25	11,608	tested wet
Superior Oil, No. 1 Helbling, Rio Bravo, Kern	1-29-25	12,264	O.S. drlg.
Union Oil, No. 2-34, KCL, Rio Bravo, Kern	34-28-25	11,204	redrlg. 7,670
Union Oil, No. 4-34, KCL, Rio Bravo, Kern	34-28-25	10,080	sd. sh. drlg.
Getty Oil, No. 2 Ramsey, Rio Bravo, Kern	35-28-25	10,686	sd. sh. drlg.
General Pet. Corp., No. 1 Wagoner, Rio Bravo, Kern	35-28-25	10,985	sd. sh. drlg.
General Pet. Corp., No. 4 Wagoner, Rio Bravo, Kern	35-28-25	9,282	sd. sh. drlg.
Standard Oil, No. 18-1 KCL, Una, Kern Co.	29-28-26	10,205	sd. sh. drlg.
Shell Oil, No. 83-35 KCL, McFarland, Kern	35-26-25	9,801	sd. sh. drlg.
Tide Water A. O., Well No. 1, Pond, Kern	17-26-25	7,880	sd. sh. drlg.
Dilmar Oil, No. 1 Quinn, Jasmin, Kern	15-25-27	2,882	cleaning out
Standard Oil, No. 11-15 KCL, Greeley, Kern	18-29-26	7,735	fish tubing
Standard Oil, No. 2 Fleishauer, Greeley, Kern	20-29-26	9,130	sd. sh. drlg.
Superior Oil, No. 1 Krause, Greeley, Kern	21-29-26	8,178	will deepen
Continental Oil, No. 2-B KCL, Rosedale, Kern	12-29-26	5,997	sd. sh. drlg.
Continental Oil, No. 1-E KCL, Stevens, Kern	17-30-26	8,574	P.B. 8,230
Standard Oil, No. 15-2 KCL, Canfield Ranch, Kern	27-30-26	8,525	sd. sh. drlg.
Shell Oil, No. 61-29-A KCL, Ten Section, Kern	29-30-26	7,821	sd. sh. drlg.
Shell Oil, No. 56-30-A KCL, Ten Section, Kern	30-30-26	8,220	flow 2,568 b.d.
Shell Oil, No. 2-32-B KCL, Ten Section, Kern	32-30-26	6,781	sd. sh. drlg.
Shell Oil, No. 32-32-B KCL, Ten Section, Kern	32-30-26	8,202	flow 2,474 b.d
Shell Oil, No. 67-20-B KCL, Ten Section, Kern	20-30-26	4,182	sd. sh. drlg.
Shell Oil, No. 52-14-A KCL, Canal, Kern	14-30-25	8,350	O.S. drlg.
Ohio Oil, No. 7-E KCL, Canal, Kern	14-30-25	8,170	O.S. drlg.
Ohio Oil, No. 8-A KCL, Buena Vista Lake, Kern	32-31-26	11,186	testing
Texas Co., No. 1 Pioneer, Midway-Sunset, Kern	33-11-23	8,869	hd. sh. drlg.
Midway Peerless Oil, No. 17, Midway-Sunset, Kern	15-31-22	1,155	O.S. drlg.
Signal Oil, No. 5 Kendon, Midway-Sunset, Kern	35-32-23	1,862	br. sh. drlg.
Cates, M. B., No. 8 Special, Midway-Sunset, Kern	2-11-24	732	O.S. drlg.
Mascot Oil, No. 3 Midway, Midway-Sunset, Kern	36-32-23	2,435	sd. sh. drlg.
Magnuson, C. A., No. 1 Midway, Midway-Sunset, Kern	19-31-23	1,237	fish D.P.
Surprise Oil, No. 3, Midway-Sunset, Kern	36-32-23	1,221	pump 35 b.d.
National Oil, No. 18, Midway-Sunset, Kern	35-32-23	1,970	sd. sh. drlg.
Vanguard Oil, No. 1 Heavilin, Midway-Sunset, Kern	34-32-24	4,274	sd. sh. drlg.
Petrol Corp., No. 33-5 Reserve, Tejon Ranch, Kern	33-11-19	4,582	idle
Shell Oil, No. 4-26 KCL, San Emidio, Kern	26-11-22	10,020	sd. sh. drlg.
Richfield Oil, No. 1 KCL, Wheeler Ridge, Kern	28-11-20	5,440	sd. sh. drlg.
Pure Oil, No. 1 SPL, Huron, Fresno	31-18-17	11,105	hd. sh. drlg.
Magnet Oil, No. 2 Fearon, Fresno	18-20-15	2,915	sd. sh. drlg.
Jacalitos Oil, No. 1, Jacalitos Hills, Fresno	14-21-15	6,260	sd. sh. drlg.
Pet. Sec., No. 7-7-F, Guijarral Hills, Fresno	18-20-16	2,381	sd. sh. drlg.
Pet. Sec., No. 88 Grimes, Guijarral Hills, Fresno	12-20-15	4,822	sd. sh. drlg.
Goetz, F. C., No. 1, Guijarral Hills, Fresno	10-25-15	2,762	sd. sh. drlg.
Texas Co., No. 19 Mohawk, Guijarral Hills, Fresno	12-20-15	3,371	sd. sh. drlg.
Univ. Consd. Oil, No. 1 Leavitt, Guijarral Hills, Fresno	12-20-15	5,082	sd. sh. drlg.
Superior Oil, No. 1 Hight, Guijarral Hills, Fresno	8-20-16	2,477	sd. sh. drlg.
K.N.D.A., No. 38-6-Q Kettleman North, Kings	6-22-18	3,990	sd. sh. drlg.
K.N.D.A., No. 27-8-Q Kettleman North, Kings	6-22-18	5,570	br. sh. drlg.
K.N.D.A., No. 58-8-Q Kettleman North, Kings	8-22-18	5,640	sd. sh. drlg.
K.N.D.A., No. 27-16-Q Kettleman North, Kings	16-22-18	8,442	sd. sh. drlg.
K.N.D.A., No. 38-16-Q Kettleman North, Kings	16-22-18	3,530	sd. sh. drlg.
K.N.D.A., No. 27-22-Q Kettleman North, Kings	22-22-18	7,780	hd. sd. drlg.
Standard Oil, No. 46-13-H, Kettleman North, Fresno	13-21-16	10,836	completing
Standard Oil, No. 78-1-P, Kettleman North, Kings	1-22-17	8,038	sd. sh. drlg.
Standard Oil, No. 21-13-P, Kettleman North, Kings	13-22-17	7,248	redrlg. 7,080
Standard Oil, No. 74-7-Q, Kettleman North, Kings	7-22-18	8,901	sd. sh. drlg.
Standard Oil, No. 41-17-Q, Kettleman North, Kings	17-22-18	2,782	sd. sh. drlg.
Standard Oil, No. 61-21-Q, Kettleman North, Kings	21-22-18	5,981	sd. sh. drlg.
Irving, A. R., No. 1 Bisconer, Dudley Ridge, Kings	11-24-20	1,650	will deepen

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale
B.S., basic sediment
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrig., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtr., or St. sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting for cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

Texas Co., No. 1 Lewis, King City, Monterey	13-19- 5	1,872	cleaning out
Cal. Pet. Prod., No. 1 Jobe, Elkhorn, San Luis Obispo	6-10-24	2,101	sd. sh. drlg.
Cal. Pet. Prod., No. 1 Irons, Elkhorn, San Luis Obispo	19-10-24	1,570	sd. sh. drlg.
Hancock Oil, No. 1 Dick, Huasna, San Luis Obispo	30-12-33	4,830	sd. sh. drlg.
Ohio Oil, No. 1-A Willard, Willows, Glenn	18-20- 2	5,750	cmtd. 5,653
Amerada Pet., No. 1 California Lands, Colusa, Colusa	34-16- 1	5,490	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S. T. R.	Depth	Status—
Burnoel Pet., No. 1 Elsie, El Segundo, Los Angeles	12- 3-15	7,337	flow 580 b.d.
Sovereign Oil, No. 2 Community, El Segundo, L. A.	12- 3- 5	5,792	sd. sh. drlg.
Sovereign Oil, No. 1 Coppinger, El Segundo, L. A.	12- 3-15	3,593	sd. sh. drlg.
Rolling Hills Oil, No. 1 Weston, Palos Verdes, L. A.	27- 4-14	4,510	sd. sh. drlg.
Gypsy Oil, No. 16 Getty, Torrance, Los Angeles	14- 4-14	5,008	cleaning out
Allison & Oglesby, No. 1, Torrance, Los Angeles	14- 4-14	4,993	flow 590 b.d.
Consolidated Pet., No. 2, Torrance, Los Angeles	23- 4-14	4,960	sd. sh. drlg.
Coast Line Oil, No. 2 Barto, Torrance, Los Angeles	23- 4-14	4,463	sd. sh. drlg.
Camp, C. W., No. 13, Torrance, Los Angeles	23- 4-14	4,965	flow 425 b.d.
Cal-Oak Oil, No. 1 Devils, Torrance, Los Angeles	23- 4-14	4,471	sd. sh. drlg.
Calridge Oil, No. 1 Meyer, Torrance, Los Angeles	23- 4-14	4,951	sd. sh. drlg.
Dunphy, S. R., No. 1 Lomita, Torrance, Los Angeles	23- 4-14	2,997	sd. sh. drlg.
Elexico Oil, No. 2 Allen, Torrance, Los Angeles	23- 4-14	4,900	flow 280 b.d.
Eriksson, G., No. 1 Fortuna, Torrance, Los Angeles	23- 4-14	4,171	sd. sh. drlg.
Falma Oil, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	2,273	sd. sh. drlg.
Foster Corp., No. 1 Thomas, Torrance, Los Angeles	23- 4-14	3,900	idle
Foster Corp., No. 2 Thomas, Torrance, Los Angeles	23- 4-14	3,900	idle
H. D. Oil, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	3,807	rebldg. rig
Jewel Oil, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	3,280	sd. sh. drlg.
Jones-Long Oil, No. 1 Lyons, Torrance, Los Angeles	23- 4-14	5,023	flow 470 b.d.
Kenber Oil, No. 1 Berken, Torrance, Los Angeles	23- 4-14	3,795	mill 1,163
Krause & Baker, No. 2 Gladys, Torrance, Los Angeles	14- 4-14	3,795	redrlg. 2,298
Kirk, W. A., No. 12 Lomita, Torrance, Los Angeles	23- 4-14	3,795	cleaning out
Kiesau & Ford, No. 1 Rhoads, Torrance, Los Angeles	23- 4-14	3,992	sd. sh. drlg.
Lomita Drlg., No. 2 Stevenson, Torrance, Los Angeles	22- 4-14	4,890	sd. sh. drlg.
Lomita Drlg., No. 3 Hogan, Torrance, Los Angeles	23- 4-14	3,805	mill. 3,810
McCowan, C. T., No. 1-A Lindis, Torrance, L. A.	23- 4-14	4,987	sd. sh. drlg.
Maldum Oil, No. 1 R. K., Torrance, Los Angeles	23- 4-14	3,770	rigging up
Morton & Elder, No. 1 Mitchell, Torrance, L. A.	23- 4-14	4,977	flow 390 b.d.
McDonald & Burns, No. 2 Moore, Torrance, L. A.	23- 4-14	5,002	cleaning out
McDonald & Burns, No. 9 Moore, Torrance, L. A.	23- 4-14	4,180	sd. sh. drlg.
McCaslin, W. E., No. 2, Torrance, Los Angeles	14- 4-14	4,797	sd. sh. drlg.
McWherter, C. L., No. 1 Lomita, Torrance, L. A.	23- 4-14	3,286	sd. sh. drlg.
M. P. S. Oil, No. 1 Julian, Torrance, Los Angeles	23- 4-14	3,801	redrlg. 602
Moon Oil, No. 2 Julian, Torrance, Los Angeles	23- 4-14	3,787	rigging up
O'Donnell, J. L. No. 42 Lomita, Torrance, Los Angeles	23- 4-14	2,463	sd. sh. drlg.
Hughes, W., No. 2, Torrance, Los Angeles	14- 4-14	5,009	wet, idle
Pacific West. Oil, No. 2 Marble, Torrance, L. A.	14- 4-14	3,730	redrlg. 3,473
Peters Royalty, No. 2, Torrance, Los Angeles	14- 4-14	4,880	sd. sh. drlg.
Packard Pet., No. 2 Kelley, Torrance, Los Angeles	22- 4-14	4,910	sd. sh. drlg.
Packard Pet., No. 3 Kelley, Torrance, Los Angeles	22- 4-14	3,684	sd. sh. drlg.
Rico Oil, No. 1 Victoria, Torrance, Los Angeles	23- 4-14	4,975	O.S. drlg.
Standard Oil, No. 1-12 Marble, Torrance, Los Angeles	22- 4-14	3,820	cleaning out
Standard Oil, No. 1-13 Marble, Torrance, Los Angeles	22- 4-14	3,810	rigging up
Star Pet., No. 2 G & A, Torrance, Los Angeles	23- 4-14	4,861	sd. sh. drlg.
Star Pet., No. 4 G & A, Torrance, Los Angeles	23- 4-14	1,695	sd. sh. drlg.
Star Pet., No. 1 Schatz, Torrance, Los Angeles	23- 4-14	1,786	sd. sh. drlg.
Sol Oil, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	5,000	sd. sh. drlg.
Sonwell Oil, No. 4, Torrance, Los Angeles	23- 4-14	2,284	sd. sh. drlg.
Silver Strand Oil, No. 1, Torrance, Los Angeles	22- 4-14	4,791	sd. sh. drlg.
Texas Co., No. 11 Wilson, Torrance, Los Angeles	14- 4-14	5,026	P.B. 4,936
Texas Co., No. 12 Wilson, Torrance, Los Angeles	22- 4-14	4,371	sd. sh. drlg.
Imperial Gypsum, No. 2 Getty, Torrance, L. A.	14- 4-14	5,060	sd. sh. drlg.
Wilton Oil, No. 5, Torrance, Los Angeles	22- 4-14	3,890	sd. sh. drlg.
Woolner Oil, No. 4 Lomita, Torrance, Los Angeles	15- 4-14	4,986	sd. sh. drlg.
C.C.M.O. Co., No. 8, Torrance, Los Angeles	15- 4-14	4,160	P.B. 4,030
C.C.M.O. Co., No. 16, Torrance, Los Angeles	14- 4-14	3,730	redrlg. 3,570
Isco Pet., No. 1 Block, Harbor City, Los Angeles	30- 4-13	2,493	sd. sh. drlg.
Union Oil, No. 58 Callender, Dominguez, Los Angeles	33- 3-13	7,550	redrlg. 7,180
Union Oil, No. 61 Callender, Dominguez, Los Angeles	32- 3-13	1,958	sd. sh. drlg.
Union Oil, No. 62 Callender, Dominguez, Los Angeles	33- 3-13	7,722	sd. sh. drlg.
Shell Oil, No. 95 Reyes, Dominguez, Los Angeles	33- 3-13	7,890	O.S. drlg.
Shell Oil, No. 96 Reyes, Dominguez, Los Angeles	33- 3-13	2,050	cmtd. 961
Barnsdall Oil, No. 5 Trust, Rosecrans, Los Angeles	18- 3-13	3,672	sd. sh. drlg.
Barnsdall Oil, No. 9 Rosecrans, Rosecrans, L. A.	18- 3-13	7,640	O.S. drlg.
Union Oil, No. 20 Rosecrans, Rosecrans, L. A.	18- 3-13	7,855	flow 1,460 b.d.
Union Oil, No. 21 Rosecrans, Rosecrans, L. A.	19- 3-13	7,370	sd. sh. drlg.
Union Oil, No. 22 Rosecrans, Rosecrans, L. A.	18- 3-13	7,451	sd. sh. drlg.
Universal Consd. No. 4 Trust, Rosecrans, L. A.	18- 3-13	7,880	O.S. drlg.
Superior Oil, No. 9 Maxwell, Rosecrans, L. A.	20- 3-13	4,296	sd. sh. drlg.
Howard Oil, No. 1 Cordon, Rosecrans, L. A.	19- 3-13	6,596	skid rig
Tide Water A. O., No. 1 Porter, San Fernando, L. A.	27- 3-16	1,822	hd. sd. drlg.
Royal Lands, No. 1 Ramona, Castaic, Los Angeles	8- 4-17	962	sd. sh. drlg.
General Pet., No. 3-6-C.C., Wilmington, Los Angeles	2- 5-13	3,170	sd. sh. drlg.
General Pet., No. 40 Harbor, Wilmington, L. A.	2- 5-13	3,015	sd. sh. drlg.
General Pet., No. 44 Harbor, Wilmington, L. A.	2- 5-13	2,990	flow 385 b.d.
General Pet., No. 1 P.E., Wilmington, Los Angeles	2- 5-13	2,860	O.S. drlg.
Burns Oil, No. 1, Wilmington, Los Angeles	32- 4-13	3,671	sd. sh. drlg.
Crail Bros., No. 1 Mackallister, Wilmington, L. A.	33- 4-13	5,030	sd. sh. drlg.
Hancock Oil, No. 12-B, Wilmington, Los Angeles	2- 5-13	2,364	sd. sh. drlg.
Hancock Oil, No. 24-C, Wilmington, Los Angeles	2- 5-13	4,192	P.B. 4,065
Hancock Oil, No. 7-D, Wilmington, Los Angeles	2- 5-13	2,580	sd. sh. drlg.
Macson Oil, No. 2-55-G, Wilmington, Los Angeles	32- 4-13	3,122	flow 430 b.d.
O'Kane & Brain, No. 2 L.B.H.D., Wilmington, L. A.	2- 5-13	2,297	sd. sh. drlg.
Richfield Oil, No. 1-P.D., Wilmington, Los Angeles	2- 5-13	4,385	O.S. drlg.
Richfield Oil, No. 4-P.D., Wilmington, Los Angeles	2- 5-13	4,241	sd. sh. drlg.
Richfield Oil, No. 7-P.D., Wilmington, Los Angeles	2- 5-13	4,235	flow 2,088 b.d.
Richfield Oil, No. 8-P.D., Wilmington, Los Angeles	2- 5-13	2,640	O.S. drlg.
Richfield Oil, No. 9-P.D., Wilmington, Los Angeles	2- 5-13	3,396	sd. sh. drlg.
Richfield Oil, No. 3-P.G., Wilmington, Los Angeles	2- 5-13	4,387	fish D.P.
Republic Pet., No. 3 Harbor, Wilmington, L. A.	2- 5-13	4,060	flow 5,180 b.d.
Selegna Oil, No. 17 Harbor, Wilmington, L. A.	32- 4-13	3,728	O.S. drlg.
Tide Water A. O., No. 1 Banning, Wilmington, L. A.	29- 4-13	6,460	hd. sh. drlg.
Universal Consd., No. 1 Newport, Wilmington, L. A.	2- 5-13	3,730	sd. sh. drlg.
Union Pacific R.R. Co., No. 84, Wilmington, L. A.	3- 5-13	4,015	flow 425 b.d.
Union Pacific R.R. Co., No. 85, Wilmington, L. A.	3- 5-13	3,760	sd. sh. drlg.
Union Pacific R.R. Co., No. 87, Wilmington, L. A.	3- 5-13	3,955	O.S. drlg.
Union Pacific R.R. Co., No. 89, Wilmington, L. A.	4- 5-13	1,596	sd. sh. drlg.
Union Pacific R.R. Co., No. 11-E, Wilmington, L. A.	3- 5-13	3,942	O.S. drlg.
Union Pacific R.R. Co., No. 3-P.D., Wilmington, L. A.	3- 5-13	4,110	O.S. drlg.
Wilgate Oil, No. 1 Harbor, Wilmington, L. A.	2- 5-13	5,453	flow 235 b.d.
St. Helens Pet., No. 27 Monterey, Montebello, L. A.	2- 2-12	6,279	flow 300 b.d.
St. Helens Pet., No. 28 Monterey, Montebello, L. A.	2- 2-12	5,551	sd. sh. drlg.
St. Helens Pet., No. 2 Eggleston, Montebello, L. A.	2- 2-12	5,360	sd. sh. drlg.
Union Oil, No. 2 Paul Howard, Montebello, L. A.	2- 2-12	4,283	sd. sh. drlg.
Union Oil, No. 2 H. & S., Montebello, Los Angeles	2- 2-12	5,513	flow 630 b.d.
V-8 Oil, No. 1 Estelle, Montebello, Los Angeles	2- 2-12	5,970	sd. sh. drlg.
West Mon. Oil, No. 2 Seavers, Montebello, L. A.	2- 2-12	5,190	sd. sh. drlg.
Standard Oil, No. 1 McDonald, Montebello, L. A.	2- 2-12	6,190	sd. sh. drlg.
McVicar & Rood, No. 2 Manz, Montebello, L. A.	2- 2-12	6,251	O.S. drlg.
Brookline Oil, No. 1 Drake, Montebello, Los Angeles	2- 2-12	6,444	cleaning out
Security L. & W., No. 1 Tobey, Whittier, L. A.	8- 2-11	1,560	fishing
Johnston Drlg., No. 34, Long Beach, Los Angeles	13- 4-13	4,399	sd. sh. drlg.
Texas Co., No. 2-3 Foster, Long Beach, Los Angeles	29- 4-12	3,381	sd. sh. drlg.
De Soto Oil, No. 1, Long Beach, Los Angeles	30- 4-12	4,963	sd. sh. drlg.
Texas Co., No. 3 Alamitos, Seal Beach, Orange	3- 5-12	5,140	sd. sh. drlg.
Brea Canyon Oil, No. 48, Brea Canyon, Orange	2- 3-10	5,064	sd. sh. drlg.
Battersby, J. M., No. 1 Carmenita, Orange	21- 3-11	6,000	cleaning out
Severns Drlg., No. 1-A McNally, West Coyote, Orange	24- 3-11	3,990	sd. sh. drlg.
Alford Dev., No. 1 Yorba, Richfield, Orange	29- 3- 9	3,272	sd. sh. drlg.
Shell Oil, No. 1 Cuff, Richfield, Orange	29- 3- 9	3,096	P.B. 2,825
Shell Oil, No. 1 Swain, Richfield, Orange	28- 3- 9	2,230	sd. sh. drlg.
Shell Oil, No. 1 Hemphill, Richfield, Orange	30- 3- 9	2,681	sd. sh. drlg.
Brown & Co., No. 2 Hurley, Yorba, Orange	22- 3- 9	1,780	sd. sh. drlg.
Beth Oil, No. 1 Dillingham, Yorba, Orange	21- 3- 9	2,338	rig to pump
Richfield Consd. Oil Co., No. 2 Todd, Yorba, Orange	21- 3- 9	884	sd. sh. drlg.
A. V. Oil, No. 1, Costa Mesa, Orange	16- 6-10	3,990	sd. sh. drlg.
Congress Oil, No. 1, Santa Ana, Orange	36- 3- 9	2,980	rig to pump

OKLAHOMA

Week Ending July 30

NORTHERN OKLAHOMA

Coal County

Carter et al No. 1 Mote, C E½ SW NW sec. 19-2-9. Cg. 5,395 ft.

Comanche County

E. N. Eldridge No. 1 Aetna Life, SW SE SW sec. 2-1-10w. Drlg. 250 ft.

Midnite O. & G. Co. No. 1 Howe, NW NW NW sec. 20-2n-12w. Drlg. 478 ft.

Garfield County

I.T.I.O. No. 1 Kechin, C SE SE sec. 17-22-5w. T.D. 5,196 ft.

Garvin County

H. R. Hollenbach et al No. 1 Butterly, NE NE SE sec. 22-1n-1e. 3,218,000 ft. gas; drlg. 3,205 ft.; S.D.; repairs.

Hughes County

City of Holdenville No. 1 Fairgrounds, SE SE SE sec. 13-7-8. T.D. 1,097 ft.; top pay 1,090 ft.; shot and pmp. 12 B.O.P.D.

Kay County

Champlin Ref. Co. No. 1 Boehm, SW SW NE sec. 24-27-4. Cg. 4,970 ft.

Heimerich & Payne No. 1 Sch. Ld., SW SE SW sec. 16-28-1w. Wilcox 3,530 ft.; 2nd Wilcox 3,603 ft.; T.D. 3,645 ft.; flwd. 286 B.O. in 3½ hrs.; flwd. 640 B.O. in 10 hrs. while rng. tbg.; 43 grav.

Clark C. Nye No. 1 Willin, SE SE SW sec. 24-27-4. Cg. 3,016 ft.; S.S.O.&G.; S.D. for mach.

E. J. Shaffer et al No. 1 McKee, NE NW sec. 20-28-1w. T.D. 2,500 ft.; S.D.

Kiowa County

Anderson-Prichard Oil Corp. No. 1 Sch. Ld., SE SE SE sec. 14-6n-17w. T.D. 1,523 ft.; C.O.

Hughes & Reese No. 1 Fultz, SE SE SE sec. 10-6-18w. T.D. new hole 1,238 ft.; S.D.

Lincoln County

Indian States No. 1 Bailey, NW NW NE sec. 2-12-5. T.D. 4,238 ft.; W.O.C.

Logan County

Superior Oil of Calif. No. 1 McCullev C W½ NW NW sec. 26-16-4w. Cg. Viola 6,333 ft.; first Wilcox 6,495 ft.; second Wilcox 6,610 ft.; T.D. 6,642 ft.; D.&A.

Noble County

Big Chief No. 1 Hoy, SE SE SW sec. 33-21-2w. Viola 5,210 ft.; second Wilcox 5,385 ft.; T.D. 5,399 ft.; D.&A.

H. R. Hollenback No. 1 Mathews, C SW NW sec. 9-20-1. T.D. 2,140 ft.; S.D.

Texas-Canadian Oil Corp. No. 1 Schultz, NE NE NE sec. 29-23-1w. Drlg. Miss. L. 4,834 ft.

Okfuskee County

Amerada No. 1 Conard, NE NW SW sec. 33-10-10. Drlg. 2,762 ft.

C. W. Titus No. 1 Lehmar, C NE NE sec. 26-11-8. T.D. 3,481 ft., sd.; flw. 10 to 15 B.O. in one hd.; S.I. for tnks.

Oklahoma County

Fain Drlg. No. 1 Little, SW SW NE sec. 28-11-3w. Drlg. 5,905 ft.

Olson Oil No. 1 L. Vaneck, SE SW NW sec. 4-12-3w. T.D. 6,531 ft.; installing B.O. preventer.

Osage County

Chevalier-Simon No. 1 Osage, NW NW SW sec. 33-27-5. Drlg. Miss. L. 3,330 ft.

Norbla Oil Co. No. 1 Osage, SE cor. sec. 18-25-7. T.D. 2,784 ft.

Payne County

Sinclair-Prairie No. 1 McQuain, NE NW NE sec. 22-19-1. Drlg. 2,970 ft.

Pittsburg County

Supreme Oil Corp. No. 1 Hickey, NW SW NW sec. 4-2-15. Drlg. 1,040 ft.

Pontotoc County

Caloma Oil Corp. No. 1 Brents, SE NE SW sec. 4-1n-6. T.D. 1,707 ft.; S.D.; lost circ.

Farmers Mutual Royalty Corp. No. 1 Waite, NE NE NW sec. 9-5-5. Wilcox sd. 3,200 ft.; T.D. 3,234 ft.; P.B. to 2,880 ft.; swb. est. 97 B.O. and 97 B. W. in 24 hrs.; tstg.

Jack Lynch et al No. 1-A Parker, SW SW SE sec. 17-4-8. T.D. 4,572 ft.; P.B. 4,490 ft.; rip in csg.; P.B. 4,090 ft.; to acd.

H. Z. Moore No. 1 Payne, SE NW SE sec. 16-4-4. Drlg. 945 ft.

Pierce & Morgan No. 1 Kroeger, SE NE SW sec. 30-5-7. T.D. 2,335 ft.; to P.B. and test.

Union Dev. Co. No. 1-A Abbott, SW NW NE sec. 34-3-6. T.D. 2,013 ft.; cmtg. csg.

Pottawatomie County

Atlantic Ref. Co. No. 1-A McCurry, NW NE SW sec. 6-6-4. Viola 4,187 ft.; T. D. 4,210 ft.; rng. csg.

Seminole County

Boetcher O. & G. No. 1 Morgan, SE NE NW sec. 8-5n-7. Drlg. 1,740 ft.

Burk-Greis No. 1 Blevins, SW NW SW sec. 28-10-7. Drlg. 2,450 ft.

Farmers Mutual Royalty Corp. No. 1 Sch. Ld., SE SE NW sec. 16-5-5. Drlg. 2,247 ft.

Indian States et al No. 1 Johnson, NE SE NE sec. 2-6-5. T.D. 3,004 ft.; P.B. 2,850 ft.; shot and S.D.O.

Simpson-Roodhouse No. 1-A Fleet, NW NW NW sec. 27-7-5. Cg. 2,798-2,815 ft.; S.G.&O.

Southern Oil Co. No. 1 Rainey, NW NE SE sec. 12-7-5. T.D. 3,765 ft.; S.D.; repairs.

Young & Newsom No. 1 Edgeman, SE SE SE sec. 17-7-6. T.D. 4,307 ft.; R. U.S.T.

Washita County

L. B. McWhirter No. 1 fee, NW SW SW sec. 34-8-19w. T.D. 2,150 ft.; fsg.

SOUTHERN OKLAHOMA

Atoka County

C. M. Sheldon and Gardner Pet. Co. No. 1 Lee, NE NW SW sec. 2-4s-10e. Arb. 2,843 ft.; drlg. 3,410 ft.

Choctaw County

Clyde Ross et al No. 1 Hardy, SE SE NW sec. 21-7s-15. Drlg. 1,025 ft.

Jefferson County

Bridwell Oil Co. No. 1 Seay, SE SW NW sec. 29-6s-5w. T.D. 2,206 ft.; D.&A.

Love County

Sinclair Prairie Oil Co. No. 1 Peabody, NE cor. sec. 35-6s-2w. T.D. 5,961 ft.; P.B. 5,585 ft.; cmtd. and drld. out to 5,532 ft.; P.B. to 5,442 ft.; W.O.C.

KANSAS

Week Ending July 30 (Descriptions are East unless marked otherwise)

Barton County

Crown Pet. Corp. No. 1 Wolf, SE SW SE sec. 36-19-12w. T.D. 3,358 ft.; blg. 1 B.O.P.D.

Gardner & Murfin No. 1 Krug, SW SE sec. 16-16-13w. Drlg. 2,970 ft.

Butler County

Heilman & Harwood No. 1 Sawyer, SE NE NE sec. 10-28-7. Top pay 2,740 ft.; pmp. pot. 50 B.O.P.D.; comp.

Virgil Hicks No. 1 Heyman, NW SW NW sec. 33-23-5. Drlg. 2,300 ft.

National Ref. No. 1 Wentz, SE NE NW sec. 7-27-6. C.O. at 2,810 ft.

Rex & Morris No. 1 Newby, SW SE sec. 16-26-7. T.D. 2,841 ft.; D.&A.

Simpson Oil No. 1 Equitable Life Ins., SW sec. 15-25-3. Drlg. 2,105 ft.
Max Steinbuchel et al No. 1 Fox, NW SE NE sec. 25-26-3. Drlg. 3,195 ft.

Ellis County

Carter Oil No. 1 Sottschalk, NW SE sec. 36-15-18w. Drlg. 2,995 ft.
C. B. Davis No. 1 Smith, SW NW NE sec. 11-12-16w. Drlg. 2,600 ft.

Ford County

Sinclair Prairie Oil Co. No. 1 Young, CSL NE sec. 34-27-21w. Viola 5,350 ft.; dolomite at 5,512 ft.; Wilcox 5,617 ft.; Arb. 5,629 ft.; T.D. 5,930 ft.; P.B. 5,025 ft.; flwd. 56 B.F. in 8 hrs.

Graham County

C. E. Schlemeyer No. 1 Belveal, C SE NW sec. 3-8-24w. Drlg. 4,236 ft.

Jackson County

Haverback et al No. 1 Marble Bank, C NE NE sec. 26-9-14. H.F.W.; drlg. 2,750 ft.

Kingman County

Bunte Bros. No. 1 Shepard, SE SE SE sec. 10-27-10w. Drlg. 4,010 ft.

McPherson County

Marylyn Oil No. 1 Dixon, NW NE NW sec. 7-19-2w. Drlg. 1,100 ft.

Marion County

Johnson et al No. 1-A Miltz, SW SW SW sec. 24-17-4. T.D. 1,700 ft.; C.O.
Harwood Oil Co. No. 1 Kaufman, NW NW SE sec. 27-17-4. Drlg. 449 ft.

Mead County

Cragin, Reeuscher & Turner No. 1 Adams, NW NW SE sec. 22-34-30w. T.D. 200 ft.; R.U.R.
Pacific Midwest Oil No. 1 Rexford, NE SE SW sec. 8-30-29w. T.D. 935 ft.; S.D.

Ness County

Jones & Lane No. 1 Page, SE NW sec. 36-18-26w. T.D. 3,270 ft.; abd.
Mid-Continent Oil Co. No. 1 Collins, NW NW sec. 24-20-26w. S.S.O. at 4,290 ft.; T.D. 4,555 ft.; S.D.

Ottawa County

Babcock Oil No. 1 Copeman, NW NW sec. 18-10-2w. Drlg. 1,718 ft.

Reno County

Carter Oil Co. No. 8 Hogan, NW SE SW sec. 19-24-42. Drlg. 340 ft.
L. E. Douglas et al No. 1 Durand SE SE SW sec. 3-23-5w. S.D. 3,600 ft.

Rice County

C. L. Carlock No. 1 Heinz, NW SE sec. 8-18-10w. Drld. plug to 3,019 ft.; flwd. 205 B.O. first 4 hrs.; 186 B.O. second 4 hrs.; pot. 1,118 B.O.P.D.; comp.
Duwe & Farris No. 1 Remmert, SW NW sec. 3-18-9w. Drlg. 1,980 ft.
Marylyn Oil Co. et al No. 1 Vincent, NW NW NE sec. 5-21-10w. Drlg. 3,357 ft.
Shell Pet. et al No. 1 Cramm, CNL NE sec. 15-19-9w. Arb. 3,240 ft.; Dol. 3,246 ft.; T.D. 3,251 ft.; pot. 1,622 B.O. P.D.; comp.

Riley County

Coronado Oil et al No. 1 Parks, SE SE sec. 16-10-8. Drlg. 1,910 ft.

Rooks County

Fred Haines et al No. 1 Don, SE SE SW sec. 13-9s-16w. Drlg. 2,845 ft.
J. J. Hall No. 1 Kruse, SE NE sec. 3-10-16w. T.D. 3,126 ft.; P.B. 3,110 ft.; pmp. 45 B.O. and 45 B.W. in 24 hrs.; drlg. 3,194 ft.
Power-Olson Oil Co. No. 1 Hammond, C SW sec. 34-6-19w. Drlg. 2,857 ft.
Producers Oil No. 1 Ham, SW NW sec. 25-7-19w. Drlg. 1,795 ft.

Rush County

Phillips Pet. Co. No. 1 John Kees, C SE SE sec. 3-19-20w. T.D. 2,500 ft.; S.D. for csg.

Russell County

Aylward Prod. Co. No. 1 Salbach, SE NE sec. 31-14-14w. Arb. 3,143 ft.; pay 3,149 ft.; T.D. 3,154 ft.; pmp. 142 B. O. in 4 hrs.
Coralena No. 1 Hefferman, NE SE SW sec. 34-14-13w. P.B. 2,900 ft.; cmtg. T.D. 3,026 ft.
J. J. Hall No. 1 Landon, SW SE sec. 11-15-14w. T.D. 3,100 ft.; 1,800 ft. O.I.H.; W.O.C.
Geo. Hinkle No. 1 Kaufman, SE NW sec. 10-15-12w. Drlg. 1,440 ft.
Phillips Pet. Co. No. 1 Miller, C NW SW sec. 29-13-14w. T.D. 3,311 ft.; pot. 829 B.O.P.D.; comp.
R. H. Shields No. 1 Anschutz, SW SE sec. 2-14-13w. Drlg. 3,362 ft.
R. H. Shields No. 1 Rogg, CEL W½ NW sec. 9-15-13w. Pay 3,000 ft.; T.D. 3,033 ft.; 600 ft. O.I.H. in 18 hrs.
W. I. Southern No. 1 Letsch, NE SW SW sec. 17-15-13w. T.D. 3,230 ft.; pot. 1,118 B.O.P.D.; comp.
Stearns No. 1 Stielow, NW cor. sec. 32-11-14w. Drlg. 2,780 ft.

Sedgwick County

Frank Hudson et al No. 1 Fulton, NE SE sec. 35-28-1e. T.D. 2,283 ft.; S.D.
Natl. Ref. No. 1 Trustee, SE NE sec. 8-27-2. T.D. 3,258 ft.; 2,200 ft. O.I.H. in 2 days.
Union O. & R. Co. et al No. 1 Howell, SW cor. sec. 6-29-1e. S.D. 3,550 ft.

Stafford County

Atlantic Ref. Co. No. 1 Wise, NW cor. sec. 13-24-14w. R.U.S.T. 3,592 ft.
Cities Service No. 1 Smith, CWL SW sec. 16-21-11w. R.U.S.T. 3,407 ft.

Sumner County

Murphy et al No. 1 Tate, SE NW sec. 31-32-2e. T.D. 3,747 ft.; Arb.; 2,040 ft. pay 3,733-36 ft.; T.D. 3,747 ft.; pmpg. 2½ B.O.P.H.

Woodson County

Cyr Gas et al No. 1 Schrieber, SE SW SE sec. 8-25-14. T.D. 1,578 ft.; D.&A.
Joe Nathan No. 1 Ellis, NW NW SE sec. 35-25-14. Drlg. 140 ft.

LOUISIANA

N. LOUISIANA WILDCATS

Bienville County

W. M. Chambers No. 1 Thomas, SE cor. sec. 10-22-11. M.I.R.
DeSoto O. & G. Co. No. 1 Fleming, C NW NW sec. 18-16-9. Drlg. sh.&L. 3,400 ft.

Bossier Parish

C. H. French No. 1 Weaver, sec. 14-19-11. Set 6⅝-in. csg. 377 ft.
Premier Inv. Co. No. 1 Community Corp., sec. 22-19-11. S.D. 310 ft.
Premier Inv. Co. No. 1 Connell, SE cor. sec. 15-19-11. W.O.S.R. 383 ft.
Premier Inv. Co. No. 2 Connell, NE cor. SE SE sec. 15-19-11. W.O.S.R.; T.D. 374 ft.
Premier Inv. Co. No. 1 McDade, SE SW NE sec. 28-19-11. Tstd. est. 1,000,000 ft. gas; S.I.; T.D. 2,374 ft.; top oolitic L. 2,345 ft.; set 5½-in. csg. 2,300 ft without cmt.; set 7-in. csg. 2,026 ft. without cmt.; tstd. est. 1,000,000 ft. gas, S.S.O.; swbg. to test 2,384 ft.
Premier Inv. Co. No. 44 Wyche, SE cor. NW sec. 14-19-11. Drlg. 294 ft.
Sloan, Lloyd et al No. 1 Sherrill, sec. 12-19-12. T.D. 780 ft.; set 5½-n. 778 ft.; trtd. with 1,000 gal. acd.; tstd. dry; W.O.

Caddo Parish

J. W. Bailey No. 2 Caddo Lvy. Bd., SE cor. sec. 36-21-16. R.U.
Carney et al No. 1 Hart. Set 6-in. csg. 1,037 ft.; drlg. plug.
J. E. Carroll et al No. 1 Stiles, SW cor. NE sec. 17-21-16. Set 7-in. csg. 1,017 ft.
W. D. Chew No. 3 Stiles, sec. 33-21-16. Set 6-in. csg. 1,852 ft.; W.O.S.R. 1,985 ft.
Paul Cooper et al No. 1 Stiles, SE cor. NE NW sec. 33-21-16. R.U.
Driscoll Jt. No. 1 Muslow, SE cor. NW sec. 4-20-15. D.&A. 2,197 ft.
J. P. Driscoll et al No. 4 Pender, sec. 11-20-15. Set 10-in. csg. 65 ft.; drlg. 1,836 ft.
Falcon Oil Co. No. 2 Glassell-Youree, SE cor. sec. 26-20-15. Set csg. 2,306 ft.; W.O.C.
C. G. Gibbons No. 1-A State Lv. Bd., sec. 17-21-16. Set 8-in. csg. 1,015 ft.; W.O. S.R.
J. H. Gray No. 4 Stiles, sec. 33-21-16. Tstd. S.W. 961 ft.; W.O.
W. K. Hutchinson hrs. No. 1 fee, sec. 3-15-12. Set 6-in. csg. 1,908 ft.; comp.; no ga.; est. 100,000 ft. gas; T.D. 1,911 ft.
Magnolia Pet. Co. No. 27 Dillon Hrs., SW cor. NW sec. 24-21-15. Drlg. ch. rk. 1,460 ft.
Midfield Oil Co. No. 3 Muslow, sec. 6-20-15. W.O.S.R. 1,560 ft.
Midfield Oil Co. No. 5 Muslow, NW cor. SE SW sec. 6-20-15. Set 6⅝-in. csg. 1,335 ft.
J. F. Mitchell No. 2 Muslow, sec. 31-21-15. Set 6-in. csg.; T.D. 1,649 ft.; acd. and tstd. dry; S.O.; will deepen.
Oils, Inc., No. 1 Cazaux, sec. 10-16-13. Drlg. ch. rk. 1,725 ft.
Petroleum Heat & Power Co. No. 1 Wemple, NW cor. sec. 14-20-15. Set 6-in. csg. 2,185 ft.; P.B. 2,200 ft.; old T.D. 2,605 ft.; fsg. for lnr. 2,200 ft.; tstd. S.W.; W.O.
J. E. Sedberry No. 1-A Dickinson, SW cor. sec. 10-19-14. Drlg. 1,267 ft.
T. D. Sedberry No. 2 Stiles, sec. 28-21-16. Set 5½-in. csg. 1,038 ft.; comp.; 45 B.P.D.; T.D. 1,040 ft.
Southern Star Pet. Corp. No. 1 Muslow, SE NW sec. 17-20-15. O.W.W.O.; old T.D. 1,500 ft.; set 8-in. csg. 1,350 ft.; T.D. 1,860 ft.; will acd.
Southern Star Pet. Corp. No. 2 Muslow, NE cor. SE NW sec. 17-20-15. R.U.
Nat Wissman No. 3 Stiles, NW cor. SE SW sec. 27-21-16. Drlg. 1,060 ft.

Caldwell Parish

G. W. Ziegen No. 14 La. Central, SW cor. sec. 20-14-3e. Drlg. sh. 1,767 ft.

Claiborne Parish

Harry Fotiades No. 1 Rogers, C NW NW sec. 13-20-5. Set 5½-in. csg. 5,378 ft.; tstg. 5,804 ft.
Harry Fotiades No. 2 Whitman, C NW NW sec. 2-20-5. Drlg. L. 5,142 ft.
Gulf Oil Corp. No. 2 Patton, sec. 12-20-5. Drlg. sh.&L. 5,075 ft.
J. H. Henry No. 1 McDonald, NE cor. SE sec. 3-20-5. R.U.
J. H. Henry et al No. 1 Tippett, sec. 33-21-4. Sat. L. 5,253-58 ft.; set 5½-in. csg. 5,250 ft.; small S.O.; T.D. 5,274 ft.; D.&A.
Love Pet. Co. No. 2 English, sec. 29-21-4. Cg. 5,090 ft.
Lyons & Neely No. 1 Kilgore, C NW SE sec. 11-20-5. Drlg. sh.&sd. 2,674 ft.
W. H. North No. 1 Lowery, C NE NW sec. 14-20-5. Set 10¾-in. csg. 740 ft.
Oakes et al No. 1 Kilgore, NE cor. SE sec. 28-21-15. D.S.T. 4,188-4,225 ft.; tstd. dry in 5 min.; set 5¾-in. csg 5,290 ft.; T.D. 5,313 ft.; set perf. lnr.; tstd. dry; washed with oil and acdz. with 2,000 gal. and 150 bbls. oil; swb dry; think csg. seat gave away; recmt. csg.; cor. depth 5,270 ft.; cor. T.D. 5,357 ft.; tried to reacdz.; swbg. small S.O.
A. O. Olson No. 1 Kennedy, sec. 26-21-5. Sat. L. 5,194-97 ft.; set 5½-in. csg. 5,194 ft.; T.D. 5,205 ft.; acd. with 400 gal.; comp.; 206 B.P.D.; open tbg.; T.P. 35 lbs.
Prairie O. & G. Co. No. 2 Lloyd, C SE NE sec. 10-20-5. Drlg. sh.&L. 3,442 ft.
Sells Pet. Co. No. 1-B C. S. L. Patton, SE cor. NW sec. 12-20-5. Drlg. 3,966 ft.
Sklar Oil Corp. No. 3 Kilgore, C SW SW sec. 11-20-5. T.D. 5,290 ft.; set 5½-in. csg. 5,257 ft.; comp.; 55 B.P.H.; ¾-in. ck.; T.P. 150 lbs.; C.P. 550 lbs.
Sklar Oil Corp. No. 1 Lowery, C SW SW sec. 14-20-5. Set 10¾-in. csg. 730 ft.
Sloan & Zook No. 8 Patton, C SE SW sec. 1-20-5. T.D. 5,404 ft.; P.B. 5,391 ft.; set 5½-in. csg. 5,404 ft.; perf. 5,346-61 ft.; comp.; 17 B.P.H.; ½-in. ck.; T.P. 175 lbs.
Texas Canadian Oil Co. No. 1-B Lowery, C NE NE sec. 14-20-5. Drlg. 708 ft.
Texas Canadian Oil Co. No. 1 Patton, C SW SW sec. 12-20-5. Drlg. 685 ft.
Union Prod. Co. No. 1-A Simms Unit 660 ft.; SW cor. sec. 29-20-5. Drlg. rd. sh.&strks. sd. 6,050 ft.

Concordia Parish

Edw. Addy et al No. 1 Posternack, NW SW sec. 49-8n-9e. S.D. 750 ft.
Morrison & Co. No. 1 Winston, sec. 43-7-9e. S.D. 3,950 ft.

De Soto Parish

S. S. Alexander No. 1-A Stoll, sec. 5-12-16. Set 10¾-in. csg. 72 ft.
Clear Lake Oil Co. No. 1 Woolum, NW sec. 29-12-12. D.&A.; T.D. 2,690 ft.
G. H. Collins et al No. 2 Joiner, sec. 28-11-12. Set 6¼-in. csg. 2,894 ft.
Paul Miller et al No. 2 Jal Drlg. Co., NE sec. 5-11-11. R.U.
Petroleum Heat & Power Co. No. 1 Kavanaugh, NE cor. NW SW sec. 7-11-11. Tstd. dry 2,874 ft.; W.O.
Pet. Heat & Power Co. No. 1 Rives, sec 20-12-11. S.D. 3,620 ft.
Rodessa O. & R. Co. No. 1 Boone, 330 ft. S and W, C sec. 25-11-11. Tstd. S. W. 2,810-26 ft. and 2,826-37 ft.; abd.

Grant Parish

C. R. Bowers No. 1 Harrison Est., sec. 21-8-5. S.D. 1,091 ft.
C. L. Thompson No. 1 McNeely Est., NE cor. sec. 10-6-3w. Ran Schlumberger; T.D. sh. 4,518 ft.; S.D.

La Salle Parish

Cherie Oil Co. No. 1 Urania, NW cor. NW SW sec. 18-10-2e. Drlg. 786 ft.

Lincoln Parish

Harry Fotiades No. 2-B Patton, C NW SW sec. 7-20-4. Drlg. L.&sh. 4,706 ft.
Magnolia Pet. Co. No. 1 Fuller, C SE SW sec. 5-20-4. Set 7-in. csg. 5,357 ft;. W.O.C.
Magnolia Pet. Co. No. 3 Patton hrs., C NW NW sec. 7-20-4. Set 7-in. csg. 5,310 ft.; tstg. 5,329 ft.

Madison Parish

Continental Oil Co. No. 1 Singer Mfg Co., C NE NW sec. 3-15-11e. Drlg. 1,800 ft.

Natchitoches Parish

Jos. E. Popkins No. 1 Peavy Lbr. Co., sec. 36-7n-9w. S.D. 500 ft.; 10-in. csg. 300 ft.

Red River Parish

J. F. Lent No. 1 Chicago Coal & Ld. Co., SE cor. sec. 17-13-11. Drlg. 1,162 ft.
H. D. Rogers No. 3 Long Bell Lbr. Co., sec. 30-13-9. Cg. 1,080 ft.

Sabine Parish

Addison & Peterson No. 1 Dew, SE cor. SW SE sec. 22-8-11. R.U.
Hare et al No. 1 Stoby, SW cor. SE sec. 10-8-12. Loc. abd.
Hunter Co. No. 5 Bowman Hicks, C SE SE sec. 12-7-13. Set 6-in. csg. 2,222 ft.; pmpd. dry and S.D.
W. L. McClanahan No. 1 Frost Lbr. Co., sec. 22-9-13. D.S.T. 2,927-3,028 ft.; tstd. est. 1,000,000 ft. gas and 9 jts. mud; ¼-in. ck.; blew out 4,745 ft.; S.W., mud and gas; cd. hd. sh.&L. 4,745-54 ft.; T.D. 5,705 ft.; rng. Schlumberger.
Major Oil Co. No. 3 Bowman-Hicks, sec. 11-7-13. Set 7-in. csg. 2,130 ft.; gas sd. 2,212-17 ft.; tstg. 2,217 ft.
Harry N. Morris No. 1-B Irving & Bishop, C SW NW sec. 18-7-12. Drlg. ch. rk. 2,678 ft.
Albert Reich No. 1 Giaque, 330 ft. NE cor. SE NE sec. 27-7-14. Cg. L.&sh. 4,208 ft.
Richard & Holloway No. 1 Sabine Lbr. Co., sec. 7-7-12. Set 6-in. csg. 2,148 ft. T.D. 2,678 ft.; arng. acdz.
Sklar & Sugar No. 1 Procella, NW NE

The powerful suction action of the MILLER Sand Pump cleans-out quickly at small cost the sand and sediment that holds back production.

The MILLER is made in diameters of 2½, 3, 3½, 4, 4¼, 5, 5½, 7 and 9 inches and lengths of 20, 25 and 30 feet.

5/32-inch wall thickness in REGULAR Type, ¼-inch wall tubes HEAVY Type Sand Pumps.

INTERCHANGEABLE BOTTOMS
To Meet Every Condition

● BAILER BOTTOM
With the Bailer Bottom installed the MILLER is quickly changed to a Bailer giving you a combination of either Bailer or a Sand Pump in one tool.

● SAND BOTTOM
Used when tools are run and when well is shot to quickly remove loose material.

● STAR BOTTOM
Used for cutting the sand loose.

● CHISEL BOTTOM
(In Pump)
With this bottom tightly packed sand can be easily broken in small pieces so it can be picked up in the pump.

Write for Descriptive Folder and Price List

See Page 1445 COMPOSITE CATALOG

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FOR SALE BY SUPPLY STORES EVERYWHERE

sec. 18-7-12. Set 7-in. csg. 2,478 ft.; tstg. small S.G. 2,908 ft.; P.B. 2,670 ft.; tstd. small S.O.&G.; tstd. S.W.; old T.D. 2,908 ft.; T.D. 2,670 ft.; tstg.

Smiddy & Watson No. 1 Sabine Lbr. Co., NW NE sec. 12-7-13. Set 10-in. csg. 60 ft.; 7-in. csg. 2,129 ft.; tstd. dry 2,352 ft.; 1,100 ft. O.I.H.; W.O.S.R. 2,580 ft.

H. M. Sneed No. 1 Leone, 330 ft. S line, 400 ft. W line, NW SE sec. 8-7-13. R.U

Sutton Zwolle Oil Co. No. 1 Bowman-Hicks, SE SW sec. 14-7-14. Drlg. 2,207 ft. and well blew out making oil; flwd. wild for several hours; S.I.

Tropical Oil Co. No. 1 Long Bell Lbr. Co., sec. 5-8-13. Set 12-in. 93 ft.

Voline Oil Co. No. 1 First Natl. Bnk., sec. 18-7-12. Top ch. 2,460 ft.; S.D. 2,560 ft.

Lee Whitehurst No. 1 First Natl. Bnk of Shreveport, sec. 14-7-13. Set 10-in. 82 ft.; set 7-in. csg. 2,152 ft.; T.D., ch. 2,398 ft.

Zwolle Synd. No. 1 Mansfield Lbr. Co, sec. 8-7-19. Drlg. 580 ft.

Webster Parish

S. W. L. Backus No. 4 Pardee, sec. 3-22-11. D.S.T. 2,725-34 ft.; rec. 4 jts. oil and mud; T.D. 2,734 ft.; set 7-in. csg. 2,729 ft.; comp.; 40 B.P.D.

Hunt Oil Co. No. 8 Babb, sec. 13-21-10. Top Holloway sd. 5,642 ft.; set 9⅝-in. csg. 5,627 ft.; T.D. 5,980 ft.; Holloway sd. tstd. dry; drlg. sdy. sh. 7,055 ft.

Hunt Oil Co. No. 2 Bodcaw Lbr. Co., NE cor. sec. 33-21-10. Drlg. sh. 3,005 ft.

Hunt Oil Co. No. 2 Bodcaw-Stewart, C NE SE sec. 33-21-10. Holloway sd. 5,832-48 ft.; set 9⅝-in. csg. 5,945 ft.; comp.; 18 B.P.H.; ⅜-in. ck.; T.P. 500 lbs.; C.P. 1,000 lbs.; T.D. 5,945 ft.

Hunt Oil Co. No. 3 Bodcaw-Stewart, C NW SW sec. 34-21-10. Drlg. gmy. sh. 310 ft.

Hunt Oil Co. No. 1 Davis, 660 ft. NE cor. sec. 23-21-10. Holloway sd. 5,394-5,600 ft.; set 9⅝-in. csg. 5,563 ft.; S.I. press. 1,200 lbs.; will not flow; S.D.; W.O. 5,969 ft.

Hunt Oil Co. No. 20 Hope, C NE NW sec. 24-21-10. Top Holloway sd. 5,596-5,604 ft.; set 9⅝-in. csg. 5,580 ft.; did not test Holloway sd.; drlg. sdy. sh. 7,130 ft.

Hunt Oil Co. No. 1 Pardee, sec. 24-21-10. Set 13⅜-in. csg. 797 ft.; drlg. L.& sh. 4,570 ft.

Hunt Oil Co. No. 1 Sandifer, C NE NE sec. 4-20-10. R.U.

Magnolia Pet. Co. No. 4 Cox, sec. 23-21-10. Drlg. sd.&sh. 5,408 ft.

Magnolia Pet. Co. No. 1 Crichton Unit sec. 33-21-10. Top Lower Marine 7,910 ft.; set 7-in. csg. 8,388 ft.; T.D. 8,415 ft.

Magnolia Pet. Co. No. 1-C Pardee, C NW NE sec. 17-23-11. Drlg. 5,100 ft.

Harry Morgan No. 2-A Hope, C SE SW sec. 24-21-10. Set 9⅝-in. csg. 5,722 ft.

North American Oil Consol. Co. No. 1 Barrow, C NE NW sec. 21-21-10. Top Trv. Pk. 5,889 ft.; set 9⅝-in. 5,945 ft.; no Holloway sd.; drlg. sdy. sh. 7,160 ft.

Ohio Oil Co. No. 4 Bodcaw, Acct. 4, sec. 13-21-10. Holloway sd. 5,794-5,810 ft.; set 9⅝-in. csg. 5,787 ft.; T.D. 5,830 ft. comp.; 1,060 B.P.D.; ¼-in. ck.; T.P. 775 lbs.; C.P. 820 lbs.

Ohio Oil Co. No. 4 Cox, Acct. 2, C SW sec. 15-21-10. Drlg. sh. 7,856 ft.

Ohio Oil Co. and Union Prod. Co. No. Tillman-Gleason, sec. 28-21-10. Bodcaw sd. 8,313-65 ft.; set 7-in. csg. 8,322 ft.; T.D. 8,366 ft.; comp.; 436 B.P.D. and 6,000,000 ft. gas; ⅜-in. ck.; T.P. 2,600 lbs.; C.P. 2,700 lbs.

Oliphant Oil Corp. No. 1-B Stewart, C NW NE sec. 5-20-10. Drlg. sh. 3,120 ft.

Oliphant Oil Corp. No. 2-B Stewart, C NW NW sec. 4-20-10. R.U.

Union Prod. Co. No. 1 Josey, sec. 27-21-10. Set 7-in. csg. 8,084 ft.; T.D. 8,145 ft.; S.T.; W.O.; stg.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 2 J. A. Brookshire, sec. 66-12s-3e. Drlg. sh. 7,826 ft.

Continental Oil Co. No. 1 Francioi, sec. 67-12s-3e. Spd.

Continental Oil Co. No. 1 Motty, sec. 65-12s-3e. T.D. 8,242 ft.; P.B. 6,428 ft.; perf. csg. 6,422-25 ft.; would not flow; fsg. out screen.

Anse La Butte—St. Martin Parish

Butte Oil Co. No. 2 Billeaud sec. 117-9s-5e. Salt 1,972-2,000 ft.; D.&A.

Louisiana-Crusader No. 3 Central Oil Co., sec. 86-9s-5e. S.D. 421 ft.

Mary G. Thomas No. 1 J. A. Broussard, sec. 117-9s-5e. S.D. 1,005 ft.

Bancroft—Beauregard Parish

Republic Prod. Co. No. 1 Columbia Ld. & Tmbr. Co., sec. 16-6s-13w. Drlg. sh. 1,826 ft.

Bateman Lake—St. Mary Parish

Texas Co. No. 1 Wax Bayou, sec. 21-16s-12e. Drlg. sd.&sh. 7,189 ft.

Baton Rouge—East Baton Rouge Parish

Wm. Helis No. 2 Duplantier, sec. 65-7s-1w. T.D. 7,340 ft.; P.B. 3,800 ft.; sidetracked; drlg. sh. 6,390 ft.

Wm. Helis et al No. 2-A La. State University, sec. 66-7s-1w. Drk.

Wm. Helis No. 1 Harry Nelson, sec. 36-7s-1w. Cd. oil sd. 6,477-6,500 ft.; T.D. 7,710 ft.; D.P. stk.

Bay St. Elaine—Terrebonne Parish

F. L. LeBlanc No. 2 Wurzlow, sec. 17-22s-18e. S.D. 816 ft.

Texas Co. No. 4 State-Bay St. Elaine, sec. 19-23s-20e. Rig.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 7 A. Wilberts, sec. 66-9s-11e. Drlg. sh. 5,553 ft.

Bayou Chociaw—West Baton Rouge

La. Crusader Oil Co. No. 3 Schwing, sec 29-8s-11e. Drlg. sd.&sh. 2,355 ft.

Standard Oil Co. et al No. 1 Marley Cypress Co., sec. 29-8s-11e. Drlg. stky. sh. 5,769 ft.

Bayou De Allemands—St. Charles Parish

Amerada Pet. Corp. No. 1 Gheens Realty Co., sec. 56-15s-20e. T.D. 7,021 ft.; D.P. stk.

Amerada Pet. Corp. No. 4 State, sec. 13-15s-20e. Drlg. sh. 9,521 ft.

Amerada Pet. Corp. No. 2 St. Charles Ld. Co., sec. 13-15s-20e. Drlg. sd.&sh. 8,247 ft.

Caillou Island—Terrebonne Parish

Texas Co. No. 4 State-Terrebonne Bay, sec. 19-23s-20e. Rig.

Texas Co. No. 29 State, sec. 17-23s-20e. Rig.

Cameron Meadows—Cameron

Burton-Sutton Oil Co. No. 23 School Ld., sec. 16-14s-13w. T.D. 5,786 ft.; 7-in. csg. 5,323 ft.; tstd. S.W.; P.B. to sidetrack; T.D. 2,959 ft.; flwd. oil and sanded up; S.D.

Burton-Sutton Oil Co. No. 24 School Ld., sec. 16-14s-13w. T.D. 5,837 ft.; P.B. 3,596 ft.; 7-in. csg. 3,573 ft.; comp.; gas well; sd. 3,573-94 ft.

Burton-Sutton Oil Co. No. 25 School Ld., sec. 16-14s-13w. Drlg. sh. 7,706 ft.

Magnolia Pet. Co. No. 22 Cameron Meadows, sec. 21-14s-13w. 9⅝-in. csg. 4,242 ft.; T.D. 6,367 ft.; P.B. 3,830 ft.; perf. csg. 3,777-97 ft.; flwd. 80 bbls. fluid, 80% S.W.

Magnolia Pet. Co. No. 23 Cameron Meadows, sec. 21-14s-13w. Drk.

Cheneyville—Rapides Parish

Amerada Pet. Corp. No. 5 Weil Ld. Co., sec. 53-1s-2e. Drlg. cap rk. 6,855 ft.

Charenton—St. Mary Parish

Kinsley Oil Co. No. 1 Hertel, sec. 21-13s-9e. Abd. 2,010 ft.

Pan American Prod. Co. No. 9 Laws Realty Co., sec. 31-13s-10e. Drlg. sh. 6,996 ft.

Pan American Prod. Co. No. 10 Laws Realty Co., sec. 30-13s-10e. Drlg. sd. &gvl. 1,548 ft.

Creole—Cameron Parish

Superior Oil Co.-Pure Oil Co. No. 2 State, Gulf of Mexico. T.D. 6,813 ft.; P.B. 1,200 ft.; drld. T.D. 5,159 ft. in oil sd.; top sd. 5,142 ft.; 7-in. csg. 5,137 ft.; comp.; 440 B.P.D.; 34.4° P.L.O.; 11/64-in. ck.; W.P. 750 lbs.

Superior Oil Co.-Pure Oil Co. No. 3 State-Gulf of Mexico. Skdg. rig.

Darrow—Ascension Parish

Darrow Oil Co. No. 1 Dennis, sec. 68-10s-2e. T.D. 5,750 ft., stky. sh., S.D.

Humble O. & R. Co. No. 1-B Community, sec. 49-10s-2e. Drlg. sh.&L. 4,727 ft.

Humble O. & R. Co. No. 14 Gumbel, sec. 33-10s-2e. Drk.

Kiva Oil Co. No. 1 Duplessis, sec. 69-10s-2w. S.D. 2,523 ft.

Southern Drillers, Inc. (D. J. Simmons) No. 1 August Berteau, sec. 55-10s-2e. Drlg. stky. sh. 5,875 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 6 Dog Lake, sec. 5-22s-16e. T.D. 6,833 ft.; comp.; 139 bbls. fluid, .4% sd. daily; ½-in. ck.; T.P. 1,060 lbs.

Four Isle—Terrebonne Parish

Texas Co. No. 10 State, sec. 24-21s-16e. Drlg. sdy. sh. 6,349 ft.

Gibson—Terrebonne Parish

Shell Pet. Corp. No. 1 Kuntz, sec. 40-17s-15e. Cg. shly. sd. 9,200 ft.

Garden Island—Plaquemines Parish

Texas Co. No. 28 State, sec. 100-23s-38e. Drlg. sh. 1,012 ft.

Texas Co. No. 29 State, sec. 38-23s-33e. Top salt 6,983 ft.; T.D. 6,993 ft.; 7-in. csg. 6,993 ft.; perf. csg. 6,880-6,925 ft. comp.; 962 bbls; 6,925 ft.

Grand Bay—Plaquemines Parish

Gulf Ref. Co. No. 2 Grand Prairie Lve., sec. 48-20s-18e (1,320 ft. W of No. 1). Dredging canal to loc.

Hackberry—Cameron Parish

Berry Oil Corp. No. 1 Cora E. Lyons, sec. 28-12s-10w (West Hackberry). Rig.

Darryl Davis No. 1 Bickford, sec. 39-12s-10w. T.D. 2,873 ft.; top sh., L., and brkn. cap; S.O. 2,792 ft.; 5-in. csg. 2,778 ft.

Gulf Oil Corp. No. 1 Noble, sec. 22-12s-10w. T.D. 3,201 ft.; P.B. 2,830 ft.; W.O.C.; to sdtrk. jnk.

F. J. LeBlanc No. 2 Landry, sec. 36-12s-10w. Abd. 3,621 ft.

John Merrick No. 2 Vincent, sec. 28-12s-10w. T.D. 3,160 ft.; 5-in. csg. 3,131 ft.; pmpg. 33 bbls. net oil.

Stanolind O. & G. Co. No. 1 Dorisse Kuough, sec. 28-12s-10w. Drlg. gbo. 950 ft.

Superior Oil Co. No. 3 Benson Vincent, sec. 30-12s-10w. Drlg. sh.&sd. 4,829 ft.

Texas Co. No. 24-B State, sec. 12s-9w. T.D. 8,052 ft.; sdtrkd.; T.D. 7,259 ft.; fsg. D.P.

Union Sulphur Co. No. 44 Watkins, sec. 13-12s-10w. Sd. 2,802-28 ft.; comp.; 408 bbls., 20.3° oil, 22% wash wtr.; ¼-in. ck.; T.P. 250 lbs.

Horseshoe Bayou—St. Mary Parish

Texas Co. No. 2 State, sec. 37-17s-9e. R.U.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 1-A Roane Sugar Co., sec. 38-13s-9e. T.D. 10,645 ft.; milling to sdtrk. stk. D.P.

Jefferson Island—Iberia Parish

Texas Co. No. 1 State-Lake Peigneur, Twp. 12s-5e. Drlg. sdy. sh. 2,829 ft.

Jennings—Acadia Parish

Frank Bennett No. 1 Freeman & Carden, sec. 45-9s-2w. Drlg. sd.&sh. 3,315 ft.

W. T. Burton No. 6 Roboria, sec. 41-9s-2w. T.D. 6,797 ft.; 7-in. csg. 6,721 ft.; fsg. tbg.

Cosmo Pet. Co. No. 1 Jennings-Clement, sec. 46-9s-2w. T.D. 3,552 ft., sh.; fsg.

Frio Oil Co. No. 2 Gulf fee, sec. 45-9s-2w (NW flank). Drlg. sh. 1,012 ft.

Frio Oil Co. No. 1 Iowa-Jennings, sec. 45-9s-2w. T.D. 6,687 ft.; P.B. 4,300 ft. sdtrkg. 5,426 ft.

Glassell & Glassell No. 5 Trushell, sec. 42-9s-2w. Drlg. sh.&L. 6,025 ft.

Guaranty Oil Co. No. 1 Housierre-Latrielle, sec. 47-9s-2w. Oil sd. 1,731-45 ft.; 6⅝-in. csg. 1,715 ft.; 600 bbls.

Iles Pet. Corp. No. 2 Jennings-Heywood, sec. 41-9s-2w. Drlg. sh. 1,420 ft.

L. & L. Oil Co. No. 1 Housierre-Latrielle, sec. 47-9s-2w, Sd. 1,780 ft.

W. S. Noble et al No. 1 Ed Prather, sec. 45-9s-2w. Drlg. hd. sh.&L. 6,442 ft.

Pet. Heat & Power Co. No. 1 Iowa-Jennings, sec. 45-9s-2w. T.D. 3,995 ft.; P. B. 1,055 ft. to sdtrk.; cd. O.S. 1,760 ft.; R.U. to pump; tstd. S.W.; S.D.

Pet. Heat & Power Co. No. 2 Iowa-Jennings, sec. 45-9s-2w. T.D. 2,167 ft.; P. B. 1,595 ft.; 5½-in. csg. 1,585 ft.; S.D.

Shell Pet. Corp. No. 4 Community, sec. 40-9s-2w. No report.

Stanolind O. & G. Co. No. 112 Crowley Oil & Mineral Co., sec. 48-9s-2w. T.D. 6,838 ft.; P.B. 4,890 ft.; to sdtrk.

Superior Oil Co. No. 4 Iowa-Jennings, sec. 41-9s-2w. Drlg. sh. 6,725 ft.

Superior Oil Co. No. 4 Clement, sec. 46-9s-2w. Drlg. sh. 5,206 ft.

Superior Oil Co. No. 7 Jennings-Heywood, sec. 41-9s-2w. Drk.

Superior Oil Co. No. 13 Leckelt, sec. 42-9s-2w. T.D. 7,926 ft.; sdtrkd.; drlg. sh. 6,900 ft.

Superior Oil Co. No. 14 Leckelt, sec. 42-9s-2w. 7-in. csg. 7,470 ft.; T.D. 8,573 ft.; P.B. 7,070 ft.; perf. csg.; comp.; 475 bbls.

Three Sands Oil Co. No. 1 Whisenhunt & Tyrell, sec. 46-9s-2w. Cmtd. 6-in. csg. 1,600 ft.

Victor Weisse No. 1 Clement, sec. 46-9s-2w. 6⅝-in. csg. 3,032 ft.; T.D. 3,255 ft.; fsg. for tbg.

Lafitte—Jefferson Parish

Carter-Perrin & Brian No. 1 Lucien, Adams, sec. 9-17s-24e. Drlg. 230 ft.

Texas Co. No. 11 Lafitte, sec. 19-17s-24e. Drlg. sh.&L. 9,890 ft.

Texas Co. No. 3 Madison Realty Co., sec. 17-12s-24e. Drlg. sh.&L. 6,952 ft.

Texas Co. No. 3 Marrero Ld. Co., sec. 29-17s-24e. T.D. 6,221 ft.; D.S. stk.

Texas Co. No. 10 Rigolet Cooperative Fur Co., sec. 28-17s-24e. Canal comp.

Lake Barre—Terrebonne Parish

Texas Co. No. 16 State, sec. 32-21s-19e. T.D. 4,280 ft.; P.B. 2,734 ft.; sdtrkd. to 3,842 ft.; sd. S.O.; top sd. 3,833 ft.

Texas Co. No. 42 State-Lake, sec. 40-21s-19e. Drlg. hd. sd. 8,761 ft.

Lake Hermitage—Plaquemines Parish

Gulf Ref. Co. No. 8 Lafourche, sec. 11-18s-25e. Drlg. hd. sh. 2,664 ft.; 10¾-in. csg. 967 ft.

Leesville—Lafourche Parish

Wm. Helis No. 1-A City of New Orleans, sec. 35-21s-22e. Drlg. sd.&sh. 6,580 ft.

Texas Co. No. 69 Leeville, sec. 27-21s-22e. Salt 6,530-37 ft.; 7⅝-in. csg. 6,410 ft.

Lirette—Terrebonne Parish

Humble O. & R. Co. No. 1 Robert Verret, sec. 32-19s-19e. Drlg. hd. sd.&gvl. 1,876 ft.; 20-in. csg. 296 ft.

Lockport—Calcasieu Parish

La. Crusader Oil Co. No. 1 Milam Stieker, sec. 6-10s-9w. Drlg. sh. 1,828 ft.; 10¾-in. csg. 1,028 ft.

Magnolia Pet. Co. No. 23 Miller, sec. 9-10s-9w. Drlg. sh. 7,040 ft.

T. C. Markley No. 1 Farquhar (offset Continental No. 1 J. H. Moss). Drk.

Lake Long—Lafourche Parish

Fohs Oil Co. No. 5 State-Lake Long, sec 64-17s-19e. Drlg. sh. 2,764 ft.; 13⅜-in. csg. 2,761 ft.

New Iberia—Iberia Parish

Canal Oil Co. No. 10 Bernard, sec. 54-12s-7e. T.D. 4,392 ft.; sdtrkg. 3,728 ft.

Canal Oil Co. No. 4 Sabatier. T.D. 2,560 ft.; salt; P.B. 2,310 ft.

H. Fotiades No. 5 Gulf Ld., sec. 25-12s-7e. Drlg. sh. 4,181 ft.

H. Fotiades No. 7 Gulf Ld., sec. 25-12s-7e. Drk.

Wm. Helis No. 7 Bullock and Burke, sec. 25-12s-7e. T.D. 5,985 ft.; salt top 5,976 ft.; perf. 5,745-5,805 ft.; comp.; 1,064 bbls.

Wm. Helis No. 6 Schwing, sec. 56-12s-7e. Salt 3,949-50 ft.; P.B. 1,850 ft.

Texas Co. No. 2 Burke, sec. 56-12s-7e. T.D. 7,076 ft., salt; P.B. 4,350 ft.; sidetracking 4,830 ft.; sd.&sh.

Texas Co. No. 4 J. P. Drake, sec. 26-12s-7e. Drk.

Texas Co. No. 2 Clemente Hebert, sec. 25-12s-7e. Drk.

Texas Co. No. 2 Schwing, sec. 71-12s-7e. Drlg. S.W. sd. 3,288 ft.

Texas Co. No. 4 Grelino, sec. 25-12s-7e. Cg. sd. S.O. 5,815 ft.

North Crowley—Acadia Parish

Humble O. & R. Co. No. 3 Anton Ohlenforst, sec. 34-8s-1e. Sd. 7,177-94 ft.; cmtd. 7-in. csg. 7,194 ft.; perf. 7,189-92 ft.

Port Barre—St. Landry Parish

T. C. Markley No. 1 Lahaye, sec. 4-6s-5e. T.D. 4,775 ft.; 7-in. csg. 4,608 ft.; P.B. 4,648 ft.; comp.; 200 bbls.

Pan American Prod. Co. No. 1 Lahaye sec. 4-6s-5e. T.D. 5,426 ft., salt; P.B. 1,868 ft.

Pan American Prod. Co. No. 1 Rene Nezal. Drk.

Y. D. Spill No. 1 Gaudet, sec. 4-6s-5e. S.D. 1,565 ft.

Potash—Plaquemines Parish

Humble O. & R. Co. No. 36 Orleans Lve. Bd., sec. 14-18s-15e. Drlg. sh. 8,544 ft.

Quarantine Bay—Plaquemines Parish

Gulf Oil Corp. No. 1-A Orleans Levee Bd., sec. 18-19s-17e. Drlg. sh. 4,970 ft.

Gulf Ref. Co. No. 4 State, sec. 17-19s-17e. Drlg. sh. 11,119 ft.

Gulf Ref. Co. No. 5 State, sec. 17-19s-17e. Loc.

Gulf Ref. Co. No. 6 State, sec. 17-19s-17e. Driving piling.

Raceland—Lafourche Parish

Amerada Pet. Corp. No. 1 Godchaux Sugars, Inc., sec. 34-15s-19e. 18⅝-in. csg. 262 ft.; T.D. 11,312 ft.; 7-in. csg. 11,312 ft.

Amerada Pet. Corp. No. 2 South Coast Corp., sec. 35-15s-19e. Drlg. sh. 11,196 ft.

Tide Water Asso. Oil Co. No. 1 South Coast Corp., sec. 33-15s-19e. R.U. and S.D.

Sorrento—Ascension Parish

Pan American Prod. Co. No. 12 United Ld. Co., sec. 15-10s-4e. Cap rk. 1,725-1,817 ft.; D.P. stk.

Sorrento Pet. Corp. No. 2 White, sec. 22-10s-4e. R.U.

South Elton—Jeff Davis Parish

Stanolind O. & G. Co. No. 4-B Calcasieu Natl. Bnk., sec. 29-7s-3w. Loc.

South Roanoke—Jeff Davis Parish

Continental Oil Co. No. 1 Joe Sturdivant, sec. 36-10s-4w. Drlg. sh. 10,592 ft.

Union Sulphur Co. No. 2 T. R. S. Farms, sec. 23-10s-4w. Sh. 9,736 ft.; cmtd. 7-in. csg. 8,888 ft.

Starks—Calcasieu Parish

Lutcher-Moore Co. No. 5 fee, sec 19-9s-12w. T.D. 4,153 ft., salt; P.B. 3,987 ft.; 7-in. csg. 3,827 ft.; bailed dry; S.D. 3,857 ft.

J. R. Turnbull No. 1 Industrial Lbr. Co., sec. 19-9s-12w. Top salt 2,270 ft.; S.D.; 2,273 ft.; P.B. 1,150 ft.; S.D.

Timbalier Bay—Lafourche Parish

Gulf Oil Corp. No. 4 State, sec. 36-23-21e. T.D. 7,373 ft.; drlg. sdtrkd. hole 6,201 ft., sdy. sh.

Valentine—Lafourche Parish

Pan American Prod. Co. No. 1-A Community, sec. 99-17s-20e. Drlg. sh. 6,919 ft.

Pan American Prod. Co. No. 2-B Community, sec. 58-17s-20e. T.D. 10,055 ft.; P.B. 8,880 ft.; sdtrkg.

Pan American Prod. Co. No. 1 A. Robichaux, sec. 3-17s-20e. Drlg. sh. 5,886 ft.

Venice— Plaquemines Parish

Tide Water Oil Co. No. 8 Manhattan Ld. & Fruit Co., sec. 26-21s-30e. T.D. 7,250 ft.; sdtrkd. at 6,146 ft.; drlg. sh. 6,529 ft.

Villa Platte—Evangeline Parish

Amerada Pet. Corp. No. 2 Fornier, sec. 44-35-2e. Drlg. sh. 7,789 ft.

Continental Oil Co. No. 1 A. M. Fontenot, sec. 46-3s-2e. Drlg. sh. 8,819 ft.

Continental Oil Co. No. 1 Oscar Pitre sec. 44-3s-2e. Cd. oil sd. 8,992-9,053 ft.; T.D. 9,055 ft.; run perf. csg.; no report.

Continental Oil Co. No. 1 Opelousas, St. Landry, sec. 44-3s-2e. T.D. 9,125 ft.; top sd. 9,074 ft.; comp.; 574 bbls.; 39.9° P.L.O.; ⅛-in. ck.; 1,400 lbs. pres.

Continental Oil Co. No. 2 Piere McDaniel, sec. 44-3s-2e. Drk.

Continental Oil Co. No. 1 Tate & Mc Daniel, sec. 44-3s-2e. T.D. 9,004 ft.; comp.; 400 bbls.

Continental Oil Co. No. 1 T. E. Vidrine sec. 47-3s-2e. T.D. 10,506 ft.; P.B. 9,014 ft.; perf. csg. 8,858-65 ft.; tstd. wtr.; abd.

J. R. Hughes Oil Co. No. 1 J. E. Ortego, sec. 36-3s-2e. Drk.

Vinton—Calcasieu Parish

J. B. Reddich No. 3 Vincent, sec. 34-10s-12w. Drk.

Welsh—Jeff Davis Parish

A. V. Peters No. 3 fee, sec. 22-9s-5w T.D. 1,020 ft.; 6⅝-in. csg. 950 ft.; stk. bailer; T.A.

Stanolind O. & G. Co. No. 2 Conover,

sec. 20-9s-5w. T.D. 7,553 ft.; sdtrkg. 7,146 ft.
Stanolind O. & G. Co. No. 1 Pousson, sec. 28-9s-5w. Drlg. sh.&L. 4,871 ft.

Woodlawn—Jeff Davis Parish

Union Sulphur Co. No. 1 O. Miller, sec. 7-9s-5w. Drlg. sh. 4,765 ft.

S. LOUISIANA WILDCATS

Avoyelles Parish

G. C. Koch et al No. 1 Kelone, sec. 21-2n-3e. 10¾-in. csg. 987 ft.; S.D. 6,021 ft.; prep. to resume drlg.

Calcasieu Parish

Union Sulphur Co. No. 1 Drew-Manuel, sec. 4-10s-11w. Drlg. sh. 8,798 ft.
Wheeler Oil Corp. No. 2 Sch. Ld., sec. 16-9s-7w. 15½-in. csg. 46 ft.; S.D. 641 ft.; T.A.

Cameron Parish

Federal Roy. Co. No. 1 State-Calcasieu Lake, sec. 34-13s-8w. Driving piling.
Humble O. & R. Co. No. 2 K. B. Hanzen, 466 ft. S and E, NW cor. SW¼ sec. 9-12s-6w. Drlg. sh. 9,782 ft.
Pure Oil Co. No. 1 Calcasieu Natl. Bnk., sec. 18-12s-4w. Shale 8,293 ft.; abd.
Pure Oil Co. No. 2 Calcasieu Natl. Bnk., sec. 18-12s-4w (½ mi. N of No. 1). Drk.
Superior Oil Co. No. 1 Sells, sec. 5-15s-8w. T.D. 6,350 ft.; 10¾-in. csg. 6,350 ft.; T.D. 10,085 ft.; S.D.
Union Sulphur Co. No. 3 Miami Corp., sec. 33-12s-8w (Willow Lake area). Driving piling.

Concordia Parish

Benedum & McCormick No. 1 L. P. Allen, sec. 35-5n-8e. Rigging.

Iberia Parish

Texas Co. No. 2-B Vermilion Bay, sec. 20 16s-5e. T.D. 9,101 ft.; S.I. after B.O.

Jeff Davis Parish

Union Sulphur Co. No. 1 H. J. Liggett, sec. 36-7s-5w. Drlg. sh. 7,675 ft.

Jefferson Parish

Julius Szodomka No. 1 Carroll, sec. 12-12s-11e. W.O. 4,960 ft.; S.D.

Lafourche Parish

Sun Oil Co. No. 1 Dilbert Stark, Brown Cypress Co., sec. 70-15s-15e. Drlg. sh. &L. 5,875 ft.
Texas Co. No. 1 La Terre, sec. 1-20s-21e. Drlg. wtr. sd. 8,006 ft.

Orleans Parish

W. T. Burton No. 2-B Faubourg de Montluzin, sec. 1-10s-13e. Spd.
W. T. Burton No. 1-B R. E. E. de Montluzin, sec. 1-10s-13e. Drk.
W. T. Burton No. 1 State-Lake Pontchartrain, Twp. 10s-13e. Drlg. sdy. sh. 6,199 ft.

Rapides Parish

J. J. Farrell No. 1 W. P. Aertker, sec. 16-4n-1e. Drk.
E. F. Kalb et al No. 1 Lee Lbr. Co., sec. 9-5n-3e. Spd.

St. James Parish

Continental Oil Co. No. 1 Colonial Sugars Co., sec. 46-12s-5e. Drlg. sh. 7,205 ft.
Continental Oil Co. No. 1 Realty Operators, sec. 17-12s-17e. T.D. 7,499 ft.; 9⅝-in. csg. 6,520 ft.; P.B.; perf. csg. 6,348-58 ft.; set screen.

St. John the Baptist Parish

Shell Pet. Corp. No. 1 Godchaux, sec. 97-11s-7e. Drlg. sh. 6,700 ft.

St. Martin Parish

Shell Pet. Corp. No. 1 Jeanerette Lbr. Co., sec. 14s-12e. No report.
Texas Co. No. 6 State Lake Mongoulois, sec. 10-10s-9e. Drlg. sdy. sh. 3,379 ft.
Texas Co. No. 11 St. Martin Ld. Co., sec. 21-8s-7e. Drlg. sh.&L. 8,160 ft.

St. Tammany Parish

Ozro B. Phillips No. 1 A. J. Planche, sec. 28-6s-10e. S.D. 3,118 ft.

Terrebonne Parish

Barnsdall Oil Co. No. 1 R. R. Barrow, Inc., sec. 41-17s-18e. Drlg. sh. 10,678 ft.
Fohs Oil Co. No. 1 State, sec. 41-19s-19e. T.D. 13,409 ft.; 7-in. csg. 12,215 ft.; perf. csg. 9,000-10 ft.
Shell Pet. Corp. No. 1 Peters, sec. 73-18s-18e. Drlg. sd.&sh. 8,750 ft.
Shell Pet. Corp. No. 1 Realty Operators, sec. 10-18s-16e. 13⅜-in. csg. 2,461 ft.; cg. sd. 10,021 ft.
Texas Co. No. 1 State, Caillou Island Bay, Twp. 23s-14e. Drlg. sdy. sh. 4,036 ft.

Vermilion Parish

Magnolia Pet. Co. No. 1 H. Reece, sec. 5-12s-2w. Drk.

Vernon Parish

Mike Halbouty et al No. 1 Gulf Lbr. Co., sec. 15-1n-6w. No report.

ARKANSAS

Calhoun County

C. E. Murdock No. 1 Southern Kraft Corp., SE cor. NW NW sec. 17-14-13. T.D. 10 ft.; drlg. wtr. well.

Cleveland County

W. E. Allaum, Tr., No. 1 Moore Est., SW cor. SE NW sec. 34-9-10. Set 10¾-in. 170 ft.; T.D. 180 ft.; S.D.; rep. rig.

Columbia County

Atlantic Ref. Co. No. 1 Baker, C SE NW sec. 13-17-20. R.U.
Atlantic Ref. Co. No. 1 Harrington, C SW NW sec. 14-17-20. Set 10¾-in. csg. 1,899 ft.; drlg. 1,978 ft.
Fohs Oil Co. No. 1 Phillips, C NW SW sec. 15-17-19. D.S.T. 7,357-89 ft.; 15½ min.; ¼-in. cks. top and bttm.; rec. 15 ft. oil and 100 ft. S.W.; 275 ft. drlg. fluid; W.P. 600 lbs.; rmd. to 7,383 ft.; D.S.T. 7,383-89 ft.; 35 min.; ⅜-in. cks. top and bttm.; rec. 2,500 ft. oil, 360 ft. mud and 120 ft. S.W.; set 7-in. csg. 7,412 ft.; T.D. 7,424 ft.
Pet. Finance Co. No. 1 Baker, C SW NW sec. 13-17-20. Drlg. 330 ft.
Standard Oil Co. of La. No. 1 T. Crumpler, sec. 15-17-19. Top James L. 3,657 ft.; drlg. sh.&sd. 7,048 ft.
Standard Oil Co. of La. No. 3 McKean, NE SE sec. 7-16-22. Drlg. dolomite 7,203 ft.
G. H. Vaughn No. 1 Garrett, C NE SE sec. 14-17-20. R.U.
O. F. Whittaker No. 1 C. C. Hall, 70 ft. W line, 52 ft. S line, NW NW sec. 11-15-20. Set 6-in. csg. 2,116 ft.; W.O. pmp.; 50 ft. F.I.H. 2,176 ft.; C.O.

Craighead County

Tannark, Inc., No. 1 Ruby M. Martin, 580 ft. N line, 80 ft. E line, sec. 35-14n-3e. T.D. 1,734 ft.; ran Schlmbgr.

Lafayette County

Standard Oil Co. of La. No. 1 J. L. Warren, 1,980 ft. E line, 610 ft. N line, sec. 18-16-22. Top anhy. 3,279 ft.; T.D. 7,254 ft., L.; W.O.C.

Little River County

M. E. Sanderson No. 1 Pinny; O.W.W.O.; reported abd. 1,300 ft.; NE cor. NE SW sec. 6-13-30. S.D. 1,324 ft.
Joe G. Straham et al No. 2 Dierks Lbr. Co. Top L. 2,425 ft.; drlg. 3,200 ft.

Lonoke County

J. F. Russell No. 1 Gunter, sec. 17-5n-10w. Drlg. 820 ft.

Miller County—Rodessa

F. W. Burford No. 1 H. C. Mitchell, NW cor. NW NE sec. 11-20-28. Drlg. rd. sh. 4,600 ft.
Gerhig Co. No. 1 H. C. Mitchell, SE SW sec. 2-20-28. Set 5½-in. csg. 6,164 ft.; arng. perf.; T.D. hd. L. 6,170 ft.
Hill & Eastabrook No. 1 Sherman, SW NW sec. 29-19-28. Drlg. rd. bds.&sd. 5,000 ft.
Red River Valley Oil Co. No. 1 Beck, sec. 34-15-26. Cg. sd. 2,928 ft.

Nevada County

B. L. Webb No. 1 Boswell, sec. 5-14-20. Drlg. sh.&shlls. 735 ft.
Bruce E. Wallace No. 2 Haynie, SE cor. SE NE sec. 5-14-21. Sdy. sh. 1,194-1,204 ft.; tstd. mud, S.W. and oil 1,198-1,214 ft.; 30 min.; W.O.; T.D. 1,214 ft. set 6-in. csg. 1,198 ft.; swbd. est. 10 bbls. oil; W.O.S.R. 1,214 ft.

Pulaski County

Coker Oil Corp. No. 1 Stone, sec. 36-3n-11w. S.D. 905 ft.
A. L. Kitselman No. 2 A. L. Kitselman, Jr., SE SE SW sec. 2-1s-13e. T.D. 2,900 ft.; lost circ.; P.B. surf.; drlg. hd gmy. slate 3,042 ft.

Union County—Schuler

R. T. Adams No. 1 F. W. Powledge, sec. 7-18-17. Top Jones sd. 7,616 ft.; 7-in. csg. 7,720 ft.; T.D. 7,720 ft.; comp.; 42 B.P.H.; 39/64-in. ck.; T.P. 600 lbs.; C.P. 975 lbs.; perf. 7,625-45 ft.
Atlantic Ref. Co. No. 1 Rogers, sec. 16-18-17. Drlg. rd.&gr. sh. 5,801 ft.
Crescent Drlg. Co. No. 1 Lewis, SE SW sec. 16-18-17. Drlg. 85 ft.
E. M. Jones No. 1 C. H. Murphy, NW cor. Lot 6, NW sec. 19-18-17. O.W.D. D.; washing to bttm.; T.D. 5,981 ft.
E. M. Jones No. 2 Rogers, SW SW sec. 16-18-17. Drlg. rd.&gr. sh. 6,560 ft.
Lion Oil Ref. Co. No. 1 Dee, sec. 17-18-17. Top Jones sd. 7,545 ft.; cg. 7,576 ft.
Lion Oil Ref. Co. No. 2 Marcus, 330 ft. SE cor. Lot 3, SE sec. 18-18-17. Drlg. rd. sdy. sh. 7,444 ft.
Lion Oil Ref. Co. No. 3 Marcus, SW cor. Lot 5, NW sec. 18-18-17. Drlg. rd. sdy. sh. 6,700 ft.
Lion Oil Ref. Co. No. 4 Marcus, NW cor. Lot 3, SW sec. 18-18-17. Drlg. rd. sh. 3,705 ft.
Lion Oil Ref. Co. No. 2 Marine Oil Co., SE cor. Lot 1, SW sec. 7-18-17. Drlg. 685 ft.
Lion Oil Ref. Co. No. 5 Mayfield, sec. 18-18-17. Top Jones sd. 7,547 ft.; top L. 7,650 ft.; set 7-in. csg. 7,718 ft.; T. D. 7,725 ft.; comp.; 620 B.P.D.; ⅛-in. ck.; T.P. 700 lbs.; C.P. 750 lbs.; perf. 7,590-7,611 ft.
Lion Oil Ref. Co. No. 1 Natl., NW cor. NE SW sec. 17-18-17. Set 16-in. csg. 131 ft.
Lion Oil Ref. Co. No. 2 Nelson, Lot 5, sec. 18-18-17. Set 10¾-in. csg. 1,946 ft.; T.D. 1,950 ft.
Lion Oil Ref. Co. No. 1 H. P. Sewell, NE cor. Lot 4, NW sec. 18-18-17. R.U.
Marine Oil Co. No. 1 Calloway, SE cor. Lot 4, NW sec. 18-18-17. Top Jones sd. 7,537 ft.; top L. 7,638 ft.; set 7-in. csg. 7,660 ft.; T.D. 7,700 ft.
Phillips Pet. Co. No. 3 Marks, C Lot 2. Top Jones sd. 7,504 ft.; top L. 7,608 ft.; set 7-in. csg. 7,784 ft.; T.D. 7,806 ft. perf. csg. 7,648-55 ft.; flwd. 181 B.P.H.; ⅛-in. ck.; T.P. 1,200 lbs.; C.P. 2,450 lbs.; at gas-oil ratio 700/1; killed; set cmt. retainer 7,640 ft. and recmtd.; perf. 7,650-55 ft. and 7,661-63 ft.; flwg. 296 bbls.; 24/64-in. ck. in 18½ hrs.; tstd. 78% S.W.; recmtd. and perf. 7,650-54 ft.; flwd. 34 bbls. 76% S.W. first hr. and went dead.
Phillips Pet. Co. No. 4 Marks, ser. 18-18-17. Top L. 7,625 ft.; 7-in. csg. 7,671 ft.; T.D. 7,700 ft.
Phillips Pet. Co. No. 1 Miller, NE cor., Lot 4, SW sec. 18-18-17. Drlg. rd.&gr. sh. 5,845 ft.
Phillips Pet. Co. No. 1 Sewell, SW cor., Lot 5, SW sec. 7-18-17. Drlg. rd.&gr. sh. 5,730 ft.
Roberts & Murphy No. 1 Justiss, 330 ft. SE cor. Lot 6, SW sec. 7-18-17. Set 10¾-in. csg. 1,771 ft.; top Jones sd. 7,561 ft.; top L. 7,662 ft.; set 7-in. csg. 7,740 ft.; T.D. 7,775 ft.; comp.; 83 B. P.H.; ½-in. ck.; perf. 7,596-7,617 ft.

Union County—Other

J. R. Lockhart No. 1 Raulston, sec. 12-17-14. Cd. oil sd. 3,160-75 ft.; D.S.T. 3,172-75 ft.; rec. drlg. fluid and S.W.; cd. 3,175-85 ft.; S.O.; salty taste; set 7-in. csg. 3,077 ft.; perf. 3,002-07 ft.; tstd. 2,750 ft. S.W.; reperf. 2,967-73 ft.; blew wild; est. 500 bbls. S.W.; P.B. 2,700 ft.; drld. out cmt. 2,980 ft.; perf. 2,968-76 ft.; fsg.
Joe Modisette et al No. 2 Union Sawmill Co., sec. 8-18-12. T.D. 3,354 ft.; S.W. sd. 3,554-67 ft.; ran Schlumberger and set 9⅝-in. csg. 3,009 ft.; drlg. rd.&gr. sh. 4,301 ft.
Phillips Pet. Co. No. 5 Bilyew, 460 ft. N line. 660 ft. W line, sec. 9-16-15. O.W. W.O.; former Shell dry gasser; comp.; blowing 31,000,000 ft. daily; old T.D. 2,294 ft.; cd. top Meakin 2,347 ft.; T.D. 2,348 ft.; comp.; 50 B.P.D. and 500 bbls. S.W.
W. D. Wingfield, Tr. No. 2 Kidd Est., SE cor. NW SW sec. 15-18-13. Sd. S.D. 2,257-2,300 ft.; set 6-in. csg. 2,250 ft.; T.D. 2,300 ft.; W.O.S.R.

TEXAS

Week Ending July 30

GULF COAST FIELDS

Danbury—Brazoria County

Rowan Drlg. Co.-Shell Pet. Corp., No. 7 Thos. Jamison, H. Austin Sur. No. 6. Sh. 190 ft.; 10¾-in. csg. 188 ft.

Lockridge—Brazoria County

Gulf Oil Corp. No. 8-A Wilkes & Smith, J. W. Hall Sur. No. 11. No report.
Shell Pet. Corp. No. 5-B Ramsey State farm, J. W. Hall Sur. No report.

Hastings Field—Brazoria County

Humble O. & R. Co. No. 9 J. E. Alexander, H.T.&B. Sur. 28. Drk.
Humble O. & R. Co. No. 1 W. F. Beers, Perry & Austin Sur. Abd. 6,160 ft.
Stanolind O. & G. Co. No. 5 Droegemeyer, H.&T.C. Sur. No. 36. Drlg. sd. &sh. 3,906 ft.
Stanolind O. & G. Co. No. 5 Froberg, R. A. Magee Sur. Drk.
Stanolind O. & G. Co. No. 11 E. Grote, A.C.H.&B. No. 2 Sur. T.D. 1,250 ft.; 10¾-in. csg. 1,245 ft.
Stanolind O. & G. Co. No. 7 Matsushita, H. Stevens Sur. T.D. 6,080 ft.; 7-in. csg. 6,079 ft.; perf. csg. 6,038-78 ft.; 585 bbls.; ¼-in. ck.; T.P. 800 lbs.; C.P. 1,000 lbs.
Stanolind O. & G. Co. No. 21 Steve Paul, A.C.H.&B. Sur. T.D. 5,770 ft.; 5¾-in. csg. 5,763 ft.; perf. csg. 5,750-56 ft. and 5,700-25 ft.; 601.38 bbls.; ¼-in. ck.; T.P. 850 lbs.; C.P. 950 lbs.
Stanolind O. & G. Co. No. 3-B Stockwell, A.C.H.&B. Sur. No. 2. Drlg. sh. 5,930 ft.

Old Ocean—Brazoria County

Harrison & Abercrombie No. 1 Chenault, C. Breen Sur. Drk.
Harrison & Abercrombie No. 1 R. D. McDonald, C. Breen Sur. No report.
Harrison & Abercrombie No. 1 C. Larsen, Chas. Breen Sur. No report.
Harrison & Abercrombie No. 1 Sadler & Larsen, C. Breen Sur. No report.
Harrison & Abercrombie No. 1 West Texas Abst. Co., C. Breen Sur. T.D. 10,200 ft.; 344 B.P.D.; ¼-in. ck.

Stratton Ridge—Brazoria County

Sterling O. &.R. Co. No. 1 J. C. Kramer, T. W. Grayson Sur. Drlg. sh. 4,016 ft.

West Columbia—Brazoria County

Frost & Dunman No. 2 Parker, G. Tennille Sur. No report.
Texas Co. No. 25 W. H. Abrams, G. Tennille Sur. No report.
Texas Co. No. 3 Rebecca Goldman, G. Tennille Sur. No report.
Texas Co.-Sterling O. & R. Co. No. 8 Phillips, Geo. Tennille Sur. Drk.

Cedar Point Field—Chambers County

Standard Oil Co. of Texas-Salt Dome Oil Corp. No. 1-94 State. T.D. 6,450 ft.; P.B. 3,675 ft.; to sdtrk. to sd. 4,420-60 ft.

Cotton Lake—Chambers County

J. R. Turnbull No. 1 Casey, S. Barrow Sur. T.D. 6,539 ft.; 5½-in. csg. 6,525 ft.
Gillespie-Colcord No. 1 Lawrence, S. Barrow Sur. Cmtd. 10-in. csg. 1,167 ft.

Seabreeze—Chambers County

Sun Oil Co. No. 3 Broussard-Hebert, T. &N.O. Sur., sec. 127. Spd.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 6 A. D. Middleton, S. Burney Sur. Bldg. rd. to loc.

Greens Lake—Galveston County

Sun Oil Co. No. 2 Houston Farm Dev Co., D. Buckley Sur. Drlg. sh. 6,915 ft.

Hitchcock—Galveston County

N. W. Hunter No. 2 Aarco, Burke Sur. Drk.

Bammel—Harris County

H. M. Harrell et al No. 1 Polley, C. G. McLean Sur. T.D. 6,286 ft.; perf. csg 6,257-61 ft.; comp.; 6 B.P.H., through csg.; ¼-in. ck.; T.P. 350 lbs.; C.P. 550 lbs.

Clinton—Harris County

S. G. Harrison No. 1 Lafferty, J. Brown Sur. Loc.
Stanolind O. & G. Co. No. 1 M. J. Barraco, Reels & Trobough Sur. (1,200 ft. S of No. 1). Drk.
Stanolind O. & G. Co. No. 2 Edwards, Reels & Trobough Sur. Drk.
Stanolind O. & G. Co. No. 3 Sanders, Reels & Trobough Sur. T.D. 3,806 ft.; cleaning into pits.

Eureka—Harris County

Jack Frazier No. 1 Lackner, H. Reinerman Sur. Spd.
J. Frazier No. 3 Vollmer-Neiman, J. Reinerman Sur. Perf. csg. 7,862-7,700 ft.; comp.; 22 B.P.H.; ¼-in. ck.
Jack Frazier No. 4 Vollmer-Neiman, J. Reinerman Sur. Spd.
Houston Oil Co. No. 1-D Laura Lackner, H. Reinerman Sur. T.D. 7,721 ft.; 5½-in. csg. 7,718 ft.; perf. csg. 7,687-7,702 ft.; comp.; 67 bbls. in 3 hrs.; ¼-in. ck.; T.P. 1,350 lbs.; C.P. 2,050 lbs.
Means & McGehee et al No. 1-B Laura Lackner, H. Reinerman Sur. No report.
Tide Water Asso. Oil Co. No. 1-B Laura Lackner, H. Reinerman Sur. Rig.

Fairbanks—Harris County

Amerada Pet. Corp. and Stanolind O. & G. Co. No. 1 Berryman and Emmott, J. Waugh Sur. Loc.
Amerada Pet. Corp.-Stanolind O. & G. Co. No. 2 R. S. Smith, J. Waugh Sur. T.D. 6,850 ft.; 5½-in. csg. 6,849 ft.; perf. csg. 6,845-48 ft.; 276 bbls. in 12 hrs.; ¼-in. ck.; T.P. 1,800 lbs.; C.P. 2,500 lbs.
Amerada-Stanolind O. & G. Co. No. 1 Adell, J. Clarkson Sur. Drk.
Amerada-Stanolind O. & G. Co. No. 2 M. E. Cougat, Geo. Ayers Sur. T.D. 6,855 ft.; 5½-in. csg. 6,854 ft.; perf. csg. 6,848½-52½ ft.; comp.; 332 bbls. in 12 hrs.; ¼-in. ck.; T.P. 1,000 lbs.; C.P. 1,100 lbs.
Amerada-Stanolind O. & G. Co. No. 3 M. E. Cougat, Geo. Ayers Sur. Drlg. sh. 1,218 ft.
Amerada-Stanolind O. & G. Co. No. 2 L. M. Day, Geo. Ayers Sur. Drlg. sh. 1,296 ft.
Amerada-Stanolind O. & G. Co. No. 2 W. E. Denman, J. Waugh Sur. Drlg. sh. 1,250 ft.
Amerada-Stanolind O. & G. Co. No. 4 H. E. Ley, J. Waugh Sur. Drlg. sd. 856 ft.
Amerada-Stanolind O. & G. Co. No. 3 E. W. Mills, A. Lawson Sur. Drlg. sh. 1,325 ft.
Amerada-Stanolind O. & G. Co. No. 2 O. J. Post, Geo. Ayers Sur. T.D. 6,857 ft.; 5½-in. csg. 6,856 ft.; perf. 6,843-51 ft. comp.; 224 bbls. 12 hrs.; ¼-in. ck.; T.P. 2,000 lbs.; C.P. 2,500 lbs.
W. V. Bowles No. 3 Galloway, May McFarland Sur. Drlg. sh. 2,625 ft.
Carroll Oil Co. No. 1 Ralph Johnston, J. N. Dement Sur. T.D. 6,864 ft.; perf. csg. 6,839-43 ft.; would not flow; S.D.
Gem Oil Co. No. 5 Reid, G. Ayers Sur. Drlg. sh. 2,631 ft.
E. M. Hailey No. 1 Albert Brown, J. Clarkson Sur. Loc.
Showers & Moncrief No. 2 H. E. Ley, J. Waugh Sur. T.D. 6,845 ft.; 7-in. csg. 6,845 ft.; perf. 6,835½-40½ ft.; 743 bbls.; ¼-in. ck.; T.P. 950 lbs.; C.P. 1,050 lbs.
Showers & Moncrief No. 1-B B. W. Reid, J. Waugh Sur. Drlg. sh. 922 ft.
Skelly Oil Co. No. 1 J. H. Emmott, J. Waugh Sur. T.D. 6,843 ft.; 5½-in. csg. 6,843 ft.; perf. csg. 6,833½-46½ ft.; flwd. 13.8 bbls. fluid, 3% S.W., per hr.; ¾-in. ck.; killed and sqzd.

Smith & Ownby No. 3-B Gibson, Geo. Ayers Sur. Rig.
Smith and Ownby Drlg. Co. No. 1 J. Stephens. Sd. 6,832-56 ft.; 5½-in. csg. 6,855 ft.; perf. csg. 6,849-53 ft.
Stanolind O. & G. Co. No. 1 Fritz Look, S. Lewis Sur. M.I.M.
Union Prod. Co. No. 1 Goodykoontz, W. S. Powell Sur. T.D. 7,617 ft.; S.W. sd.; perf. 5½-in. csg. 7,222-25 ft.; tstd. oil and S.W.; sqzd. perfs.; to reperf.
Williams & Thompson No. 1 Marietta, G. Williams Sur. Sd. 6,810-38 ft.; 5½-in. csg. 6,838 ft.
Windsor Oil Co. No. 1-B C. D. Ley, Geo. Ayers Sur. Drk.
Windsor Oil Co. No. 2-A Ley, Geo. Ayers Sur. Cg. sd. 6,786 ft.
Windsor Oil Co. No. 4 H. E. Ley, J. Waugh Sur. Drlg. sh. 4,053 ft.
Windsor No. 5 H. E. Ley, J. Waugh Sur. Drlg. sh. 1,562 ft.

Friendswood—Harris County

Humble O. & R. Co. No. 11 L. S. Beamer, T. Choate Sur. T.D. 6,045 ft.; 5½-in. csg. 5,909 ft.; 613 bbls.; ¼-in. ck.; T.P. and C.P. 850 lbs.
Humble O. & R. Co. No. 15 Beamer, Thomas Choate Sur. T.D. 6,055 ft.; comp.; 27 B.P.H.; ¼-in. ck.
Humble O. & R. Co. No. 16 Beamer, Thomas Choate Sur. Sd. 5,747-6,045 ft.
Humble O. & R. Co. No. 17 Beamer, Thomas Choate Sur. Drk.
Humble O. & R. Co. No. 18 Beamer, Thos. Choate Sur. Drk.
Humble O. & R. Co. No. 1 F. E. Gavin et al, A. M. Gentry Sur. Drlg. sh. 6,017 ft.
Humble O. & R. Co. No. 10 E. A. Grey, Perry & Austin Sur. Drk.
Humble O. & R. Co. No. 3 Herman Hospital, T. Choate Sur. Drk.
Humble O. & R. Co. No. 1 J. L. Jones, Perry & Austin Sur. Drk.
Humble O. & R. Co. No. 2-B Port City, W. D. C. Hall Sur. Drlg. sh. 3,091 ft.
Humble O. & R. Co. No. 3 Settegast, T. Choate Sur. Drk.
Humble O. & R. Co. No. 1 E. E. Watson. Drk.

Cordele—Jackson County

Crown Central Pet. Corp. No. 3 Faust. P. White Sur. (660 ft. S of No. 1). Drk.
H. J. Porter No. 2 Pressley, P. White Sur. Oil sd. 2,673 ft.; 7-in. csg. 2,665 ft.; comp.; 288 bbls.; ¼-in. ck.; T.P. 220 lbs.; C.P. 280 lbs.
H. J. Porter No. 1 Woussi, Peter White Sur. Loc.

Clam Lake—Jefferson County

Shell Pet. Corp. No. 2 McFaddin, S. A Pace Sur. T.D. 8,198 ft., salt; top salt 8,156 ft.; 5-in. csg. 5,659 ft.; perf. 5,548-52 ft.; swbd.; no show; W.O.

Cheek—Jefferson County

Shell Pet. Corp. No. 1 Ed. Pleasant, C. Hildebrand Sur. Drlg. sh. 6,800 ft.

North Cheek—Jefferson County

Magnolia Pet. Co. No. 5 J. H. Phelan, A. Stivers Sur. Drlg. stky. sh. 7,439 ft.

Spindletop—Jefferson County

Unity Oil Co. No. 1 Greer Noll, J. A. Veatch Sur., Blk. 7, Spindletop Hgts. Subd. (NE flank wildcat). Drk.

Hardin—Liberty County

Atlantic Ref. Co. No. 2 J. F. Richardson, A. B. Hardin Sur. T.D. 7,672 ft.; 7-in. csg. bttm.; perf. csg. 7,635-55 ft.; 505 bbls.; ¼-in. ck.; T.P. 850 lbs; C.P. 1,000 lbs.
Atlantic Ref. Co. No. 2 C. R. Wilson, A. B. Johnson Sur. Rig.
Geo. Echols-Shell Pet. Corp. No. 1 J. H. Cessna, H. B. Johnston Sur. T.D. 7,656 ft.; perf. 5½-in. csg.
Gulf Oil Corp. No. 4-A Barfield. Drlg. stky. sh. 3,489 ft.
Gulf Oil Corp. No. 2 A. B. Tullos, H. B. Johnston Sur. Drlg. sh.&L. 5,065 ft.
Humble O. & R. Co. No. 1 M. H. Johnson, H. B. Johnston Sur. Rig.
Humble O. & R. Co. No. 3 W. S. Partlow, H. B. Johnston Sur. T.D. 7,625 ft.; tstg.
Shell Pet. Corp. No. 3 J. H. Cessna, H. B. Johnston Sur. Drlg. sh. 5,100 ft.
Shell Pet. Corp. No. 4-A J. H. Cessna, H. B. Johnson Sur. Drk.
Tidewater Asso. Oil Co. No. 2-A Cessna, A. B. Hardin Sur. Drlg. sh. 855 ft.
Woodley Pet. Corp. No. 2 Chambers, H. B. Johnston Sur. Drlg. sh. 4,568 ft.
Woodley Pet. Co. No. 1 Lynott & Buffam, Jas. Robeson Sur. Drlg. sh. 4,863 ft.

McCrosky—Matagorda County

Pierce Est. No. 4-A Pierce. T.D. 6,626 ft.; 5½-in. csg. 6,621 ft.; flwd. 103 bbls. in 12 hrs.; ¼-in. ck.; died; swbg.

Bay City—Matagorda County

Atlantic Ref. Co. No. 1 Gola. E. Hall Sur. Drlg. hd. sdy. sh. 9,355 ft.
Hamman Expl. Co. No. 1 C. W. Badouh, E. Hall Sur. Drlg. sh. 6,120 ft.

Segno—Polk County

Gulf Oil Corp. No. 3 A. Ragan. I.&G.N. Sur., sec. 15. Drlg. sh. 350 ft.
Gulf Oil Corp. No. 11 Wing, F.&G.N. Sur. No. 14. Sd. 6,182 ft.; 10-in. D.S. T. 6,173-82 ft.; 30 ft. dist.; 700 lbs. press.
Gulf Oil Corp. No. 12 Wing. Drlg. sh. 5,145 ft.
Humble O. & R. Co. No. 9-B Kirby, M. Victor Sur. Drlg. sh. 3,222 ft.

Spurger—Tyler County

Republic Prod. Co.-Houston Oil Co. No. 11 Hurd fee, N. Hurd Sur. No report.

Magnet—Wharton County

Gray & Wolf No. 1 State, Colo. River Sur. 10¾-in. csg. 1,160 ft.; S.D. for high wtr.

Withers—Wharton County

Texas Co. No. 50-C Pierce Est., John Caldwell Sur. Drk.

GULF COAST WILDCATS

Brazoria County

Fabriguze et al No. 1 Freeport Sulphur, Stephen F. Austin Sur. (Bryan Mound). M.I.M.
Glenn McCarthy No. 1 G. C. Sheet, D. H. M. Hunter Sur. Drk.
W. C. Neville et al No. 1 Houston Farms Dev. Co., Perry & Austin Sur. Spd.
Sterling O. & R. Co. No. 1 Kramer, T. W. Grayson Sur. (Stratton Ridge). Drlg. sh. 4,016 ft.
Texas Co. No. 1 M. W. Jones, H.T.&B. Sur. Drlg. sh. 6,195 ft.
Texas Co. No. 5 Freeport Sulphur Co., H. Burt Sur. No report.

Burleson County

Peerless O. & G. Co. No. 1 G.C.&S.F. fee, James Lastley Sur. Drk.

Chambers County

Geo. Anderson No. 1 Julia Casey, W. D. Smith Sur. Loc.
Cordy Calvin, Tr., No. 1 Paul W. Sherman Est., James McFaddin Sur. (Moss Bluff area). Drk.

Fort Bend County

Henry C. Adams No. 1 Sury, H.&T.C.R. R. Sur., sec. 48 (Needville). Spd.
Jack Frazier No. 1 Baker, Barrett and Harris Sur. T.D. 6,517 ft.; abd.
Sam E. Wilson No. 1 Mt. Wood. Chas Heywood Sur., C Lot 93. T.D. 6,852 ft.; abd.

Galveston County

Sun Oil Co. No. 1 Cade, A. Dickinson. T.D. 8,120 ft., sh.; cmtd. 7-in. csg. 8,750 ft.; (protection string).

Harris County

Commerce Oil Co. No. 1 Meaderbrook Dev. Co., J. R. Harris Sur. Cg. sd.& sh. 8,015 ft.
H. H. Givens No. 2 F. K. Adone, David Middleton Sur. Drk.

Jasper County

John Mayo No. 1 Cartwright, Legrande Sur. T.D. 7,760 ft.; abd.

Jackson County

J. K. Dorrance No. 1 F. J. H. Guethlein, Morris & Cummings Sur. T.D. 6,040 ft.; abd.
Magnolia Pet. Co. No. 3-A West Rnch., Ramon Musquez Sur. M.I.M.

Jefferson County

I. E. Harwell No. 1 State, Gulf of Mexico. T.D. 5,840 ft.; D.S. stk.; pulled in two; S.D.
Humble O. & R. Co. No. 6 McFaddin State "B," 1,980 ft. NW of No. 1 State Gulf of Mexico. Drlg. sh. 1,471 ft.

Liberty County

Wallace & Hargrove et al No. 1 J. C. League, M. DeLos Santos Sur. Rig.
Sun Oil Co. No. 1 Caroline Jordan. L. Gedruf Sur. Drlg. sh.&L. 7,129 ft.
Texas Co. No. 1 Paige, James Hanney Sur. Drlg. sh.&L. 6,358 ft.

Matagorda County

Glenn H. McCarthy No. 1 Nancy Moffett et al, Susan Perkins Sur. Loc.
Ohio Oil Co. No. 1 W. D. Cornelius, P. C. Yarborough Sur. Drk.

Montgomery County

Deep South Pet. Corp. No. 1 Foster Lbr. Co., Preyor Bryan Sur. Spd.; no report.
J. Smith et al No. 1 J. V. Scott, F. A. B. Wheeler Sur. R.U.

Newton County

Republic Prod. Co. No. 1 Sabine Tram, Isaac Garner Sur. (NW Starks Prospect). Bldg. rd. to loc.

Polk County

Jack Frazier No. 1 S. H. Bergman, A. Viesea Sur. (3 mi. W of Goodrich). Rig.
C. E. Gates No. 2 I. O. Jackson, J. W. Abbey Sur. Abd. loc.

Tyler County

Chapman Minerals Corp. No. 1 Angelina Co. Lbr. Co., James Corin Sur. Bldg. rd. to loc.

Waller County

Stanolind O. & G. Co. No. 1 Freeman. H.T.&C. Sur. No. 99. T.D. 11,076 ft.; to P.B.

Wharton County

Humble O. & R. Co. No. 1 Duncan, D. Wade Sur. (Core test); T.D. 7,500 ft.; abd.
Humble O. & R. Co. No. 1 Worington, S. F. Austin Sur. Drk.
Albert Plummer No. 1 Mrs. Corbett, Kuykendall Sur. Drlg. sh.&L. 2,781 ft.
Albert Plummer No. 2 M. Sorrell, S. F. Austin Sur. T.D. 3,733 ft.; 5½-in. csg. 3,690 ft.; P.B. 3,605 ft.; perf. 3,008-20 ft.; comp.; 1,200,000 ft. wet gas; ⅛-in. ck.; T.P. 1,450 lbs.

S. W. TEXAS WILDCATS

Atascosa County

Hartman Drlg. Co. No. 1 Smith and Mowinkle, Francisco Perez Sur. No. 172. Spd.
Mason Altgelt No. 1 J. G. Gibson, Francisco De La Garza Sur. Spd.
Altgell Mason No. 1 Vanegar, Francisco De La Garza Sur. T.D. 2,796 ft.; abd.
G. C. Richardson No. 1 Fischer, A.B.& M. Sur. No. 1013. Sd. 844-55 ft.; run csg.
Western Gulf Oil Corp. No. 1 Vanegar, Francisco De La Garza Sur. M.I.M.

Bastrop County

R. C. Franklin No. 2 Yarrington, Jose Manuel Bangs Sur. S.D. 1,725 ft.
Oscar Raez No. 1 Walters, Michael Grun Sur. Drlg. sh. 1,640 ft.; no report.
Paul Texas and Ashby No. 1 J. T. Grizzard, Andrew Graham Sur. S.D. 4,661 ft.

Bee County

Dirks Bros. No. 1 Robertson, A. J. Davis Sur. Dry and abd. 4,312 ft.

Bexar County

Fain-Harrison and Jenkins No. 1 Hansen, John Christopher Sur. 10-in. csg. 28 ft.; 6⅝-in. csg. 1,340 ft.; no report.
Nami Herman No. 1 W. F. Fields, A. Bustillos Sur. T.D. 737 ft.; 5⅛-in. csg. on bttm.; prep. to D.D.

Brooks County

Atlantic R. Co. No. 2 Mestenas, Las Mestenas Gr., Share 10, 842 ft. S and 617 ft. E of No. 1. T.D. 3,570 ft.; abd.

Caldwell County

Banke Miller Oil Co. No. 1 Martindale. Hector McNeil Sur. T.D. 3,223 ft.; S.D.

Calhoun County

Hiawatha O. & G. Co. No. 2 J. J. Roemer, J. Ogsberry Sur. Drlg. sh. 5,222 ft.

De Witt County

Marjo Oil Co. No. 1 W. D. McCurdy, John Hunt Sur. No report.

Duval County

Ark. Fuel Oil Co. No. 2 Cuellar, sec. 96. T.D. 5,541 ft.; P.B. and cmtd. 5½-in. csg. 2,872 ft.; perf. csg. 2,775-90 ft.; tstd. S.W.; abd.
James Foster No. 1 Foster, B.S.&F. Sur. No. 268. T.D. 1,531 ft.
Frank Gravis No. 1 Megerle, J. Boyles Sur. (Palangana dome). Drlg. sd. and sh. 5,167 ft.
J. A. Huff No. 1 Worden & Drought, J. L. Soen Sur. 154 (2 mi. NW Charamousca field). Rig.
Magnolia Pet. Co. No. 1 Duval County Ranch Co., J. M. Balli Sur. Drlg. 2,040 ft.
Rowan & Hope No. 1 Cuellar, sec. 69, (Tesoro field). Spd.
Standard Oil Co. of Texas No. 1. Dolores Garcia Sur. Cg. sdy. sh. 6,270 ft.

Edwards County

Evans & Love No. 1 Steve Brown, Blk. 6, G.W.T.&P. Sur. S.D. 6,261 ft.

Goliad County

Geo. Echols No. 1 Power, Wm. Lavery Sur. T.D. 5,305 ft.; heaving sh.
Jack Frazier and Bunte Prod. Co. No. 1 Taylor. Drlg. 658 ft.
Sun Oil Co. No. 1 Lee Homer, John Payne Sur. No report.

Gonzales County

Heard-Hall & Young No. 1 Clark, Robt. S. Armistead Sur. No report.

Guadalupe County

Banks-Miller Oil Co. No. 1 Union Central, R. G. Davis Sur. Drlg. Buda L. 1,913 ft.
H. G. Spiller No. 1 Allen, H. Cottle Sur. Drk.
H. Suttle et al No. 1 Manford, Stephen Smith Sur. (1 mi. SE of Manford field). Drlg. 2,496 ft.

Hidalgo County

R. E. Harding No. 1 Lynn, Juan Jose Hinojosa Sur. T.D. 7,300 ft.; perf. 5½-in. csg. 7,103-15 ft.; tstg.
Hidalgo Prod. Co. No. 1 Daskam Corp., Porc. 45, Blk. 34. T.D. 3,296 ft.; D.S. stk.; pulled drk. in; S.D.
Phillips Pet. Co. No. 1 Flores (deep test N of Samfordyce field). T.D. 5,860 ft.; cmtd. 7⅝-in. csg. 5,847 ft. (protection string).
Union Sulphur Co. No. 1 Am.-Rio Grande Ld. & Ir. Co. (Mercedes). Cmtd. 7-in. csg. 8,417 ft.
Wheelock & Collins No. 1 Temple Lbr. Co., Lino Cavaos, Porc. 57-A. Drlg. sh. 4,602 ft.

Jim Hogg County

Humble O. & R. Co. No. 2 Kelsey Bass, San Rafel Gr. No report.

Jim Wells County

Mills Bennett Prod. Co. No. 1 W. R. Perkins, Lavaca Gr. T.D. 5,664 ft.; sdtrkg. 4,076 ft.
Bianco Oil Co.-Buchanan Prod. Co. No. 1 Rattan, Blk. 14, L. G. Collins Subd. Cg. sh. 2,802 ft.
W. G. Coates No. 2 Lindsay & Reed. Cg. 5,236 ft.
J. W. Cosner No. 1 C. B. Stillwell, Blk. 62, L. G. Collins Farm Tracts. Spd.
H. M. Howell No. 1 E. A. Hawkins, San Diego de Abajo Sur. Sh. 1,041 ft.; 10¾-in. csg. 1,031 ft.
H. H. Howell No. 1 Mosser, Blk. 97, L. G. Collins Subd. Drlg. sd.&sh. 3,596 ft.
H. H. Howell No. 1 Stillwell, Blk. 63, L. G. Collins Subd. Drlg. sd. and sh. 3,596 ft.
Humble O. & R. Co. No. 1 Wm. Adams, Marcellino Lopez Gr., Abst. No. 28. Drlg. sdy. sh. 4,653 ft.
Magnolia Pet. Co. No. 1 Martin, Ana Maria Vaco Gr. Rig.
Magnolia Pet. Co. No. 1 Valades Hrs., La Anima Sola Gr. T.D. 6,415 ft.; 6½-min. D.S.T. with packer set 6,391 ft.; ¼-in. chokes top and bttm.; recov. 180 ft. mud with oil and gas odor; 400 lbs. pressure.
Shell Pet. Corp. No. 1 C. H. Von Blucher, Lucinda Best Sur. Drlg. sh. 5,561 ft.
Southern Minerals Oil Corp. No. 1 J. R. Trussells, Lavaca Gr. 10¾-in. csg. 540 ft.; S.D. 4,000 ft.
Transwestern Oil Corp. No. 1 B. H. Dunlap, Sur. 179-181 (1½ mi. SW East Premont field). R.U.

Kendall County

Geo. Dorsey No. 1 Flanagan, J. Sweeney Sur. No. 12. S.D. 350 ft.
Millican and Norman No. 1 Werner, J. F. Torrey Sur. No report.

Kerr County

Edminston No. 1 Saul, Sur. 47. S.D. 55 ft.
H. C. Starkey No. 1-A Saue, T.W.N.G. R.R. Sur. S.D. 345 ft.

Kimble County

Phillips Pet. Co. No. 1 Mudge, C.C.S.D.& R.G.N.G.R.R. Sur. No. 9. Drlg. L. 1,716 ft.
Plateau Oil Co. No. 1 Hunger, J. Dujner Sur. Drlg. 805 ft

Kleberg County

Pure Oil Co. et al No. 1 State Ld., Tr. 68, Laguna Madre Bay, Lse. No. 528. Drlg sh. 8,096 ft.

Lavaca County

A. C. McCord et al No. 1 Cora Russek, Blk. 33, J. C. Reynolds Sur. (S of Ezzell). M.I.M.

Lee County

Eleoussa Oil Co. No. 1 Sanders, J. Vin Roeder Sur. T.D. 4,398 ft.; prep. to resume drlg.
Fred Pederson et al No. 1 Brown, David Hudson Sur. Drlg. sh. 1,163 ft.
A. H. Tarver No. 1 J. W. Lawhon. Drlg. sh. 2,410 ft.

Live Oak County

J. K. Adair No. 1 Schultz Live Stock Co., Wm. J. Pierce Sur. 10¾-in. csg. 20 ft.; S.D. 494 ft. for wtr.
R. H. Feltner No. 1 Reed, I.&G.N. R.R. Sur. 15. R.U.
Hanna et al No. 2 West, C. O. Ragland Sur. S.D. 1,850 ft.
Humphrey et al No. 1 Schultz Live Stk. Co., A. E. Brown Sur. T.D. 2,513 ft.; sh.; abd.
Palmer et al No. 1 Brown, G. F. Simmons Subd. No report.
Richardson Pet. Co. No. 1 Geo. West, Blk. 406 (3 mi. NW Geo. West). Drlg. 1,632 ft.
G. Schimmel et al No. 1 Geo. West, G. L. Haas Sur. T.D. 210 ft.
Tetbo Oil Co. No. 1 Ybanez, J. Poitevent Sur. No report.
Wallace & Jones No. 1 Burrows, Eneas Smith Sur. R.U.

McMullen County

Heard-Hall and Young No. 1-A Byrne, Geo. Pittuck Sur. No. 7. Loc.
Red Bank Oil Co. No. 1 Nueces Ld. & Livestock, J. McGrain Sur. R.U.
V. G. Schimmel No. 6 Hagist, sec. 108 (Lomo Alto). Drlg. 1,895 ft.
V. G. Shimmel et al No. 2 Kountz, E.T.R. R. Sur. No. 5 (S part of county). T.D. 2,012 ft.; P.B. and set csg 1,280 ft. to test Cole sd.
Wm. Spice, Jr., No. 1 Edrington, A.B.& M. Sur. 57 (5 mi. E Loma Alto). Rig.

Maverick County

L. M. Lockhart No. 1 Ashbrook, W. J. Phillips Sur. No. 83. R.U.
Wellington Oil Corp. No. 1-B Chittim, I. &G.N. Sur., Blk. 6, sec. 98, 14 mi. SE of Eagle Pass. Rig.

Medina County

J. W. Cromwell No. 1 J. W. Tondre, I. J. Rogers Sur. T.D. 1,250 ft.; P.B. 1,080 ft.; cmtd. csg. 1,021 ft.; acd.; C.O. D. K. J. Oil Co. No. 1 Burrell. T.D. 2,039 ft.; recmtg. csg.
Geo. Hayes and Tarver No. 1 Mann, J. H. Isbell Sur. No. 10. Drlg. 601 ft.
L. W. Stieren No. 1 Haegelin, Dolly Smitherman Sur. Sh. 270 ft.; W.O.C.
Taylor & Pepper No. 1 Saathoff, Peter Eichorn Sur. T.D. 935 ft.; fsg.
M. L. Walker No. 1 Zuberbulen, A. Bonamy Sur. R.U.; S.D.
Ziegler et al No. 1 Wiemers, F. Thurmm Sur. Loc.

Milam County

Fritz Fuchs No. 2 Stork, Maria J. Delegado Sur. M.I.M.
Texedo Oil Co. No. 1 Paul Garves, C. Robertson Sur. S.D. 1,170 ft.: C.O.; set 7-in. csg. 1,167 ft.; S.D. 1,520 ft.

Nueces County

Coast Line Oil Co. No. 1 State (Redfish Bay), State Tr. No. 32. T.D. 8,660 ft.; 7-in. csg. 8,637 ft.; perf. csg. 8,254-60 ft.; tstd. S.W.; abd.
Seaboard Oil Corp. No. 1 F. C. Lockett, E. Villareal Sur. Drlg. sh. 5,018 ft.
Union Prod. Co. No. 1 Minnie Brown (Aqua Dulce area). Drlg. sh. 10,356 ft.

Refugio County

I. J. Allen No. 2 Rooke, Jose Miguel Addrite and Jose Maria Aldrite 6¼ Lge. T.D. 6,907 ft.; P.B. 5,440 ft.; perf. csg. 5,395-5,400 ft.; flwd. 30 bbls. dist.; ⅛-in. ck.; W.P. 2,100 lbs.

I. J. Allen No. 3 Rooke, Jose Miguel Aldrite and Jose Marie Aldrite Sur. (933 ft. SE of No. 2). Drk.

San Patricio County

Humble O. & R. Co. No. 1 B. G. Henry, 4th Addn., Taft Farm Lds., Blk. 8, sec. 27, 2 mi. NE of Taft field. Drlg. sdy. sh. 3,699 ft.

Starr County

J. A. Clopton et al No. 1-A Bass, F. H. Rodriguez, Porc. 86, Lot 5, Clopton Subd. (1,500 ft. SW of No. 1). Rig.
Sun Oil Co. No. 1 Smith, A. J. Smith Sur. Rig.
Sunrise Pet. Co. No. 1 Calderoni, Jose Antonio Falcon, Porc. 80, Sh. 58. S.D. 800 ft.
Wheelock & Collins No. 1-A Guerra Santa Cruz Gr. Cg. sd. S.O.&G. 6,639 ft.; T.D. 7,010 ft.; P.B. 5,950 ft.; perf. csg. 5,917-25 ft.; comp.; flwg. 28 bbls. dist. 12 hrs.; ¼-in. ck.
W. W. Zimmerman et al No. 1 Starr Co Cattle Co., Juan De La Garza, Porc. 89. Drlg. sh. 1,805 ft.

Travis County

L. G. Priest No. 1 Mazock, J. M. Leavy Sur. No. 5. Drlg. 450 ft.; no report.
John R. Sterrett No. 1 Washington. Jos. Antonio Navarro Sur. Drlg. L. 1,942 ft. No report.
R. F. C. Oil Co. No. 1 Jones, Reube Hornsby Sur. No. 17. T.D. 1,123 ft.; 5½-in. csg. 1,112 ft.

Webb County

Garrison & Paris No. 1 Benavides, Hale Subd. of M. Arispe Gr., C Blk. 107. R.U.
Merle E. Morton No. 1 Laurel Bros., Sur. 333, Blk. 9. T.D. 2,025½ ft.; sd. S.O.; 7-in. csg. 2,015 ft.
W. R. Nicholson No. 1 fee. M. Valpe Sur. T.D. 2,918 ft.; D.P. stk.
J. W. O'Byrne No. 1 Lacey, Mary E. Wideman Sur. S.D. 510 ft.

Williamson County

F. J. Anderson No. 1 Teichelman Absalam, Jett Sur. No report.

Wilson County

Stapper Oil Co. No. 1 J. McDaniel, J. Manchoca Sur. Twisted off D.S. at 2,350 ft.; fsg.

Zapata County

C. H. Lewis No. 1 Garza, Blk. 13, Sur 413. Abd. 1,505 ft.
C. H. Lewis No. 1-A Garza, Blk. 13, Sur. 413. Drlg. 1,305 ft.
Thompson & Lowe No. 1 Ramirez, Blk. 6, Doyle Subd. of Porc. 18. No report.

EAST TEXAS

(Border counties)

Bowie County

King Oil Corp. No. 1 Watts, Geo. Brinlee Sur. T.D. 4,574 ft.; prep. deepen.

Cass County

Harry Hanbury No. 1 Echols et al, SE cor. Echols tr., Wm. Mayes Sur. Set 9⅝-in. csg. 1,865 ft.; W.O.C.
Texarkla Oil Corp. No. 1 Mayo, Bryant Holmes Sur. Drlg. sh.&L. 3,915 ft.
Texas Co. No. 2 Chatten Est., Wm. Myers Sur. Drlg. sd.&bldrs. 1,225 ft.

Marion County—Rodessa

Ark.-La. Gas Co. No. 1 Bodgett, Allen Urquhart Sur. R.U.
Ark.-La. Gas Co. No. 4 Holland, Hanks Sur. Drlg. L. 3,546 ft.
Ark.-La. Gas Co. No. 1 Johnson, Alex. Johnson Sur. Drlg. L.&sh. 5,808 ft.
Ark.-La. Gas Co. No. 1 Walker, Humphries Sur. Drlg. 1,045 ft.
Bauman Dunn & Fisher No. 1 Graham, John Hanks Sur. Comp.; 15 B.P.H.; ½-in. ck.; T.P. 50 lbs.; C.P. 300 lbs.; 5½-in. csg. 6,080 ft.; T.D. 6,101 ft.
T. Bell et al No. 1 Moseley, D. Lane Sur. T.D. 2,768 ft.; drlg. plug.
Gulf Oil Corp. No. 1 Blake, Jackson Sur Set 5-in. csg. 5,987 ft.; T.D. 5,993 ft.; comp.; 15 B.P.H.; ¼-in. ck.; T.P. 350 lbs.; C.P. 525 lbs.
Gulf Oil Corp. No. 3 Grubaugh, Coy Sur. R.U.
Harvey, Henderson & Clardy No. 5-B Henderson, Ewing Sur. Perf. 6,026-32 ft.; tstd. S.W.; reperf. 6,032-40 ft.; will attempt sqze. job; 5½-in. csg. 6,040 ft.; acd. with 500 gal.; swbd. some oil; S.G.; installed flow valves and arng. blow with gas; old T.D. 6,044 ft.; T.D. 6,036 ft.; comp.; no ga.
Holcomb & Thomason No. 1-C Henderson, R. Bennington Sur. Drlg. gmy. sh. 1,809 ft.
Hollandsworth Drlg. Co. No. 1 Hill, 15-ac. tr., Smith Sur. Set 5-in. csg. 5,979 ft.; T.D. 6,012 ft.
Ohio Oil Co. No. 4 Moseley, J. P. Francis Sur. Drlg. sh. 5,955 ft.
Phillips Pet. Co. No. 2 Benefield, J. Hanks Sur. Set 10¾-in. csg. 1,020 ft.; T.D. 1,031 ft.
Phillips Pet. Co. No. 2 Denton, Coy Sur. Set 7-in. csg. 6,149 ft.; T.D. 6,166 ft.; comp.; 237 B.P.D.; ¼-in. ck.; T.P. 450 lbs.; C.P. 850 lbs.; perf. 6,100-05 ft.
Shell Pet. Corp. No. 3 Schluter, Wm. Smith Sur. R.U.
Shell Pet. Corp. No. 4 Schluter, Smith Sur. T.D. 6,045 ft.; set 5-in. csg. 6,040 ft.; comp.; 535 B.P.D.; ¼-in. ck.; T.P. 560 lbs.; C.P. 800 lbs.; perf. csg. 6,024-40 ft.
Union Prod. Co. No. 9 Hutchinson, Coy Sur. T.D. 6,126 ft.; set 7-in. csg. 6,082 ft.; comp.; 520 B.P.D.; ¼-in. ck.; T.P. 1,300 lbs.; C.P. 1,900 lbs.

Panola County

Texas Co. No. 1 Claude Adams, T. Cox Sur. Top lower Marine 7,792 ft.; drlg. hd. sh. 9,143 ft.

Sabine County

Pet. Heat & Power Co. No. 1 Jasper State Bank, McDonald Sur. T.D. 2,506 ft., sd.; S.D.W.O.
H. R. Smith No. 1 Brooks hrs., Isaac Low Sur. Spd.

Shelby County

Center Oil Co. No. 1 Windham, A. H. English Sur. T.D. 3,422 ft.; set 6⅝-in. csg. tstg.
Mallard & Locke No. 1 W. E. Roller Est., Sullins Sur. Drlg. 5,756 ft.
Porter Oil Co. No. 1 Pickering Lbr. Co., C. E. Henry Sur. T.D. 5,065 ft.; S.I.
W. A. Reddit No. 2 Pickering Lbr. Co., P. J. Loggins Sur. Set 7-in. csg. 2,920 ft.; T.D. 4,420 ft.; drlg. plug.

WEST TEXAS WILDCATS

Andrews County

Fuhrman Pet. No. 1 G. O. Ashton, sec. 12, Blk. A-42, P.S.L. Sur. M.I.M.
Olson Drlg. Co. No. 1 Lockhart-Brown, 5 mi. W. of south end of Fuhrman pool. Drlg. 4,635 ft.

Cochran County

Texas Co. No. 1 D. S. Wright, Lge. 115, Lab. 23, Potter Co. Sch. Lds. Drlg. 2,714 ft.

Coke County

Barnett Pet. Co. No. 1 J. R. Mims, sec. 39, Blk. W, T.&P. Sur. Rng. 2-in. 5,051 ft.

Crane County

Gulf Oil Corp. No. 4 McKnight, sec 8, Blk. B-21, P.S.L. Sur. Prep. D.S.T. 6,265 ft.; S.S.O.
Gulf Oil Co. No. 2-B State-Lassiter, University Sur., Blk. 30, sec. 27. Rng. 10-in. 560 ft.; H.F.W.
Texas Co. No. 1-G Univ., sec. 7, Blk. 30, Univ. Sur. Drlg. 2,425 ft.

Crockett County

Short & Gillette No. 1 J. W. Owens, Jose Zunegas Sur. S.D.O. 1,845 ft.

Culberson County

Harry J. W. Niehaus No. 1 fee, Blk. 109, sec. 13, P.S.L. Sur. 1,800-ft. test. S.D. 2,500 ft.
Quito Oil Co. No. 1 Cameron Lbr. Co., sec. 24, Blk. 81, P.S.L. Sur. S.D.R. 945 ft.

Dickens County

Bond D. Jones No. 1 Ford et al, I.&G.N. Sur. S.D.R. 800 ft.

Ector County

Landreth Oil No. 1-P Scarbauer, sec. 11, Blk. A, P.S.L. Sur. Drlg. 4,100 ft.
Sinclair Prairie No. 3-A Johnson, sec. 37, Blk. 43, T.&P. Sur. Drlg. 4,101 ft.
Sinclair Prairie No. 2-B P. Moss, sec. 40, Blk. 44, T.&P. Sur. Drlg. 3,040 ft.
Stogner et al No. 1 Hendrick, sec. 4, Blk. 43, T.&P. Sur. S.D.O. 4,329 ft.

El Paso County

Tri-State Oil Co. No. 1 Kinkel. Fsg. 3,571 ft.

Floyd County

Mills Bennett No. 1 T. Montgomery, F. J. Latham Sur., 6 mi. S. of Floydada. Fsg. 5,960 ft. last report.

Gaines County

Osage Drlg. Co. No. 1 B. E. Miller, sec. 281, Blk. G, W.T.R.R. Sur. Drlg. 2,022 ft.
J. T. Perryman, Jr., No. 1 C. H. Doak, D.&W. Sur., Blk. H, sec. 43. D.&A. 5,129 ft.
Riddle & Warr No. 1 J. B. Brown et al, sec. 26, Blk. G, C.&M.R.R. Sur. S.D. O. 5,541 ft.; will plug.

Garza County

Gulf Oil Corp. No. 1 Swanson, sec. 25, Blk. 2, H.&G.N. Sur. Drlg. 6,865 ft.

Hockley County

Gulf Oil Corp. No. 1 Mallett Ld. & Cattle Co., sec. 6, Blk. X, P.S.L. Sur. P.B. 5,035 ft.; tstg.
Gulf Oil Co. No. 2 Mallett, Lge. 34, Labor 25. Drlg. 4,280 ft.
Sid W. Richardson No. 2 Slaughter, Lge. 39, Labor 58, Maverich Sur. Drlg. 4,655 ft.
Skelly Oil Co. No. 1 Elwood Est., Howard C.S.L. Sur., Lge. 15. Drlg. 4,580 ft.

Howard County

Anderson & Prichard No. 1 H. Hyman Est., sec. 85, Blk. 29, W.&N.W. Sur. Loc.
Lockhart Pet. Corp. No. 2 Robert Scott, W.&N.W. Sur., Blk. 29, sec. 86. Drlg. 2,175 ft.
W. B. Powell, Trustee, No. 1 Guitar Trust, Blk. A, sec. 17, Bauer & Cockrell Sur. Drlg. 2,470 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ sec. 34, Blk. 74, Twp. 6. Drlg. 4,714 ft.
Haymon Krupp No. 1 Briggs, sec. 24, Blk. 73, Twp. 7, T.&P. Sur. Drlg. 4,348 ft.

Jeff Davis County

Joiner Oil Corp. No. 1 Jones-Coffield. S.D. 3,742 ft.

Lynn County

John L. Baldridge No. 1 Alma Lbr. Co., sec. 151, H.E.&W.T. Sur. W.O.C. 4,450 ft.; split 7-in. with 500 sacks.

Martin County

W. D. Anderson No. 1 J. R. Vance, sec. 9, Blk. 36, T.&P. Sur. U.R. 7-in. 3,795 ft.
T. G. Shaw No. 1 H. H. Wilkerson, sec. 35, Blk. A, Bauer & Cockrell Sur. Spd.

Menard County

C. D. Haggerty No. 1 Callon, sec. 36, Jim Franz Sur. S.D. 1,270 ft.

Pecos County

J. N. Gregory et al No. 1 Humble-O'Niell, H.&G.N. Sur., Blk. 10, sec. 74. Drlg. up bailer 360 ft.
J. D. Kugle, Jr., No. 1 H. L. Cordz, sec. 101, Blk. 8, H.&G.N. Sur. Drlg. 1,575 ft.
Magnolia Pet. Co. No. 1 McKee. P.B. 6,197 ft.; P.B. 6,180 ft.; P.B. 5,300 ft.; C.O.
E R. Minshall et al No. 1 Haynie, sec. 28, Blk. 146, T.&St.L. Sur. Drlg. 2,980 ft.
S. Thompson No. 1 Elsinore Cattle Co., sec. 54, Blk. D, G.C.&S.F. Sur. Drlg. 7,235 ft.
Union Oil & Mining Co. No. 1 First Natl. Bnk. of Ft. Stockton, sec. 6, Blk. 9, H.&G.N. Sur. Tstg. 1,773-1,801 ft.

Reeves County

Frankley & Rice No. 1 W. A. Tunstill, sec. 10, Blk. 56, T.&P. Sur. M.I.M.
Ohio Oil Co. No. 1 Papham, sec. [illegible] 54, T.&P. Sur. Drlg. by tools 2,380 ft.

Scurry County

Coffield & Guthrie No. 1 E. E. Spears et al, sec. 130, Blk. 97, H.&T.C. Sur. S.D. 2,615 ft.
Gursham-Hunter No. 1 C. M. Wellborn, sec. 142, Blk. 25, H.&T.C. Sur. S.D. 10-in. 670 ft.
Robinson Drlg. Co. No. 1 Martin, sec. 147, H.&T.C. Sur. P.B. 2,500 ft.; S.D.

Sterling County

J. W. Sward No. 1 Brennand, sec. 107, Blk. 2, H.&T.C. Sur. S.D. 2,655 ft.; (weather).
W.F.W. Oil Co. et al No. 1 R. W. Foster, sec. 9, Blk. 13, S.P.R.R. Sur. D.&A. 2,447 ft.

Stonewall County

General Crude Oil Co. No. 1 J. D. Smith, sec. 371, Blk. 2, H.&T.C. Sur., 12 mi. N Rotan. Drlg. 4,765 ft.
E. C. Lawson No. 1 Ada Pumphrey, Eli Chandlers Sur. Drlg. 2,701 ft.
Swanson & Parriott No. 1 H. T. Carlisle, sec. 293, Blk. D, H.&T.C. Sur. Tbg. to test 5,165 ft.

Terrell County

Schermerhorn Oil No. 1 H. P. Allison, sec. 22, Blk. B-2, C.C.S.D. & R.G.N.G. Sur. 2,500-ft. test. Drlg. 760 ft.

Tom Green County

Spinner No. 1 Reed, Mason Ferry Ranch. Sur. S.D. 4,495 ft.
J. B. Watson No. 1 Llano, C.S.L. Sur., sec. 16. 500-ft. test. W.O.C. 167 ft.

Val Verde County

A. W. Little No. 1 R. W. Sellers, sec. 34, H.&G.N.R.R. Sur. 1,500-ft. test. Drlg. 200 ft.

Ward County

J. E. Fitzpatrick et al No. 1 F. K. Dyer, sec. 135, Blk. 34, H.&T.C. Sur. S.D.O. 5,085 ft.
Peerless O. & G. No. 1 F. M. White, sec. 36, Blk. 1, H.&T.C. Sur. Drlg. 685 ft.
John Poindexter No. 1 V. Meyers, sec. 17, Blk. 32, H.&T.C. Sur. Drk.
S. J. Rixford No. 1 W. B. Crump, sec. 2, Blk. 34, H.&T.C. Sur. S.D. 2,715 ft.

Winkler County

J. R. Sharp No. 1 Sharp-Crume, sec. 7, Blk. B-2, P.S.L. Sur. C.&P.
J. R. Sharp No. 2 Sharp-Crume, sec. 7, Blk. B-2, P.S.L. Sur. Loc.

Yoakum County

R. H. Gill No. 1 S. J. Doxon, sec. 611, Blk. D, Gibson Sur. Drlg. plug 4,985 ft.
Gulf Oil No. 1 Lucy K. Moore, sec. 897, Blk. D. Cg. slight porosity and sat. 4,954 ft.
Helmerich & Payne No. 1 S. O'Dowd, sec. 896, Blk. D, J. H. Gibson Sur. S.I. 5,035 ft.
Magnolia Pet. Co. No. 1 Lynn, sec. 770. Drlg. 530 ft.
Phillips Pet. No. 1 W. A. O'Brien, sec. 442. Drlg. 2,940 ft.
S. C. Yingling et al No. 1 Nettie Barrier, sec. 6. Loc.

E. C. TEXAS WILDCATS

Dallas County

Plaza Oil Co. No. 1 Davidson Marchants Sur., 1 mi. NW of Seagoville. S.D. 3,528 ft.

Falls County

M. H. Hayes No. 1 A. Garrett, J. M. Sanches Sur., 2 mi. NE of Lott field. Bailing wtr.; S.S.O. 1,366 ft.

Franklin County

V. A. Hughes No. 1 W. E. Haydon, W. Landrum Sur., 1 mi. SE of Hagansport. Prep. test 4,334 ft.

Grayson County

Epenhauser No. 1 J. M. Rogers, L. Kelly Sur., 1½ mi. NE of Whitesboro. Drk.
Mildred Oil Co. No. 1 L. C. Neatherly, Chas. Quillers Sur., 1 mi. S of Collinsville. Drlg. 3,633 ft.

Gregg County

Humble-Gulf No. 1 Porter Horton, H. G. Hudson Sur., 3½ mi. SW of Longview, 7,500-ft. test. Drlg. 1,400 ft.

Henderson County

Lignite Pet. Corp. No. 1 I. P. Tidemore, P. Tumlinson Sur., 4 mi. S of Malakoff. Drlg. 3,820 ft.
McElreath & Suggett No. 1 T. L. Dean, C. M. Walters Sur., 1 mi. W of Athens. Loc.

Houston County

Humble O. & R. Co. No. 1 Daily & Taylor, J. G. Thompson Sur. S.I. 5,894 ft.
Humble Oil & Ref. Co. No. 1 C. C. Hill, J. L. LaReviere Sur., Navarro Crossing field. Drlg. 5,453 ft.
Sun Oil Co. No. 1 R. S. and H. H. Daily, J. G. Thompson Sur., 3 mi. SE of Navarro Crossing. Tstg. 5,893 ft.; 25 B.O.P.D.

Kaufman County

Sam Knoerr No. 1 J. B. Hunter, P. Walker Sur., 5 mi. S of Terrell. Drk.
W. S. McGee No. 1 Pritchett, J. Hendricks Sur., 7 mi. W of Mabank. Drlg. 2,700 ft.

Leon County

Lone Star Gasoline No. 2 G. W. Lee, R. Hunter Sur., 5 mi. SE of Buffalo gas area. Drlg. 2,515 ft.

Limestone County

J. S. Cosden, Jr., No. 1 J. J. Bower, J. Breeding Sur., NW part of county. Cg. 1,550 ft.
A. H. Larver No. 1 C. E. Herrod, Eli Davis Sur., 5 mi. S of Grossbeck. S.D. O. 3,842 ft.

McLennan County

Lisle Steele No. 1 C. H. Cherry, M. Martinez Sur., 4½ mi. SE of Waco. S.D. 945 ft.
Russell & Thompson No. 1 L. L. Phillips, C. O. Campo Sur., 4 mi. S of Waco. S.D.W.O. 1,070 ft.
J. E. Thompson No. 1 F. E. Goodman, C. O'Campo Sur., 4 mi. S of Waco. S.D. 420 ft.

Nacogdoches County

C. W. Voyles et al No. 1 M. E. Rider, O. W. Randall Sur., 3 mi. E of Caro. Drlg. 3,195 ft.

Navarro County

B. T. Fearis No. 1 W. Montgomery, I. Redding Sur., 7 mi. S of Kerns. S.D. 950 ft.

Red River County

Daniels et al No. 1 J. J. Gaston, J. Guest Sur., 2 mi. S of Detroit. S.D. 500 ft.
Walters et al No. 1 Phamplin, W. Moore Sur., 3 mi. SE of Kanawha in NW part of county. S.D. 555 ft.
C. E. Whitehead No. 1 R. H. Ringwald, A. Moore Sur., 1 mi. NW of Manchester. S.D. 630 ft.

Smith County

Combest et al No. 1 Dora Kendall; J. Williams Sur., 1¼ mi. SW of Jamestown. S.D.R. 3,210 ft.

RANGER (CENTRAL TEXAS) DISTRICT

Brown County

Buckler No. 1 Jacobs, Kerr Co. Sch. Lds., Abst. 278. Tstg. 1,568 ft.
Evans No. 1 Garms, sec. 12, Blk. 1-11, H.&T.B. Sur. S.D. 968 ft.; T.D.
Hightower O. & R. Co. No. 1 Payne, sec. 31, H.&T.C. Sur. Fsg. 540 ft.
Lynn & Jordan No. 1 Eades, J. West Sur., 7 mi. SW of Santa Anna. S.D.R. 415 ft.
Moore No. 1 Smith, Jno. S. Thomas Sur. No. 53, Abst. 897. W.O.C. 1,578 ft.
Whatley No. 1 Browder, C.T.R.R. Sur., Abst. 281. T.D. 1,095 ft.; S.D.

Callahan County

Cooper, Weeks & Hughes No. 1 C. D. Straley, 660 ft. from W L, 1,880 ft. from N L, sec. 370, Geo. W. Denton Sur. Ordovician test; C.O. 4,415 ft.; T.D. 4,450 ft.
Dobbs Oil Co. No. 1 Finley, sec. 75, Bayland Orphans Home Ld. Drlg. 765 ft.
J. H. Howell No. 1 E. I. Vestal, 1,149 ft. E line, 1,000 ft. N line, Jesse Dyson Sur., 2 mi. NE Cross Plains. Drlg. 3,160 ft.
J. C. Jackson et al No. 1 Thompson, 2 mi. S of Eula, sec. 30, B.B.B.&C. Sur. S.D. 1,645 ft.
Petroleum Drlg. Co. No. 1 Cook & Jordan, 760 ft. from E L, 1,838 ft. from N L, sec. 350, Geo. Hancock Sur Ordovician. Comp.; 8,900,000 ft. gas.

Coleman County

Anzac Oil Corp. No. 1 Burk, A. Williams Sur. Drlg. 2,412 ft.
R. M. Coleman No. 1 Ford, A. S. Lipscomb Sur. D.&A. 1,190 ft.
F. L. and E. R. Cooper No. 1 W. R. Stockard, 330 ft. from NL, 330 ft. from WL, N½ SE¼ sec. 23, T.&N.O. Sur. Rotary to 3,650 ft.; C.O.; saturation 3,614-22 ft.; T.D. 3,622 ft.
Garrett Oil Co. No. 1 W. S. Smith et al, 4 mi. SE of Coleman, J. Thiele Sur. H.F.W.; est. 2,000,000 ft. gas; U.R. 2,170 ft.; T.D. 2,200 ft.
Bob Murray No. 1 Dibrell, H. Kigan Sur., near Camp Colorado. S.D. 2,670 ft.

Comanche County

Compton No. 1 Griffin, Blk. 2, Commanche Co. Sch. Lds. S.D. 1,400 ft.

Elmore No. 1 Moorman, sec. 37, D.D.& A. Sur., 3 mi. NE of Sipes Spgs. Sp. & S.D.
Loraine No. 1 Haile, sec. 9, Blk. 3, H. &T.C. Sur. S.D. 2,703 ft.
Sells Pet. Co. No. 1 Smith, sec. 12, Blk. 2, H.&T.C. Sur. Loc.

Eastland County

Baker No. 1 Mullroy, sec. 1, Wm. Ahrenbeck Sur., 5 mi. NW of Rising Star. Fsg. 2,810 ft.
Dobbs Oil Co. No. 1 Greer, J. E. Hardy Sur., Ellenburger test. S.D. 800 ft.
Dorothy Oil Co. No. 1 Mrs. J. L. Johnson, 1,000 ft. from S line, 1,080 from W line, E½ SW¼ sec. 29-4, H.&T.C. Sur. D.&A. 1,489 ft.
Hayner, Reaves & Hose No. 1 P. L. Larkin, 3 mi. NW Rising Star, 912 ft. from W line, 546 ft. from S line. NW¼, sec. 40-2, E.T.R.R. Sur. S.D. 3,098 ft.

Erath County

McGee Dev. Co. No. 1 Till Robinson, Wm. Ashworth Sur., 2 mi. SE of Desdemona. Drlg. 1,295 ft.; last report.

Fisher County

Forest Dev. Corp. & Daube No. 1 L. G. Bennett, 660 ft. from N and E lines, sec. 51-3, H.&T.C. Sur. Rotary to 4,500 ft., 3 mi. SW of Rotan. Tstg. on pmp. 3,699 ft.
Forest Dev. Co. No. 1 Morrow, sec. 48, Blk. 2, H.&T.C. Sur. Loc.
Owens-Snebold & A. C. Varner No. 1 J. H. Millsap, 3,500-ft. wildcat, 2 mi. NW McCaulley, 330 SL 330 WL, sec 61-2, H.&T.C. Sur. Moving on larger rig; 530 ft.
T. G. Shaw Oil Corp. and Texas Co. No. 1 John Stribling, sec. 110, Blk. 3, H.&T.C. Sur. Drlg. 1,376 ft.

Haskell County

Algord Oil Co. No. 1 J. F. Jones, 330 ft. from S and W lines, E. T. Roche Sur. No. 4, Abst. 525. Loc.
Fain-McGaha Oil Corp. No. 1 T. G. Hendrick, C W½ sec. 104, Indianola Ry. Sur. S.D. 3,089 ft.; sulfur wtr.
Forest Dev. Co. No. 1 Bankers Life Co., J. F. Morgan Sur. No. 59. S.D. O. 3,850 ft.
Heenam & Coe No. 1 Jones, Corryell Co. Sch. Lds. Drk.
Marland Drake No. 1 Cob, J. F. Benson Sur. No. 96. Loc.

Jones County

Brown Eagle Oil Co. No. 1 Haynes, sec. 191, Lemuel Andrews Sur. Drlg. 535 ft.
Dunigan Bros. and Fred Hyer No. 1 Gaither, 4½ mi. N of Anson, sec. 38, B.B.B.&C. Sur. Drlg. 2,974 ft.
R. B. Farris No. 1 Chas. Donohoo, 220 ft. from S and E lines, N½ sec. 5, B.B.B. &C. Sur. Fsg. 2,090 ft.
Grisham-Hunter No. 1 Appaling, sec. 32, B.B.B.&C. Sur., 4 mi. SW of Stamford. Drlg. 1,772 ft.
Grisham-Hunter Corp. No. 2 E. D. Appling, 1,140 ft. fr. E L, 1,208 ft. S L, NW¼ sec. 32, B.B.B.&C. Sur. Loc.
S. C. Herring No. 1 B. L. Ellis, 330 ft. fr. N and E lines, SE¼ sec. 8-15, T.&P. Sur. Loc.
Humble No. 1 Dallas Joint Stock Land Bank, 990 ft. from W line, 4,458 ft. from S line of M. Fragosa Sur. 267. S.D. 3,221 ft.
Humble O. & R. Co. No. 1 Huddleston, sec. 49, Blk. 18, T.&P. Sur. Drlg. 810 ft.
N. H. Martin & Son No. 1 J. W. Wyatt, 150 fr. S L, 316 fr. E L, W 102 ac. in sec. 4-14, T.&P. Sur. S.D. 1,662 ft.
Pet. Producers No. 1 McDuff, sec. 32, Blk. 15, T.&P. Sur. Loc.
S. B. Roberts Co. No. 1 Roy E. Prichard, 205 ft. fr. S L, 2,428 fr. E L, J. E. Cockrell Subdiv. 2, G. Martinez Sur. 195. Loc.
Shaheen Oil Co. No. 1 T. B. McCoy, 595 ft. from N line, 660 ft. from E line, sec. 1-16, T.&P. Sur. Drlg. 2,250 ft.
Sinclair Prairie No. 1 Williams, sec. 40, Blk. 18, T.&P. Sur. Loc.

Nolan County

Oyster, Harkrider et al No. 1 J. H. Withers, C SW¼ sec. 65-21, T.&P. Sur. Wildcat to drill 4,000 ft.; C.O. 3,515 ft.

Runnels County

Homer Price et al No. 1 Beddo, sec. 51, Thompson Casey Sur. Est. 6 B.O.P. D. and 30 to 40 B.W.P.D.; 3,603 ft.

Shackelford County

Beck No. 1 Dyer, sec. 63, Blk. 11, T. &P. Sur. Loc.
Joe DeGrazier No. 1 Harbough, E cen. part of county, sec. 1,563, T.E.&L. Sur. 4,500-ft. test. S.D.O. 3,171 ft.
Forest Dev. & Helmerich & Payne No. 1 T. G. Hendrick, C sec. 1, A.B.&M. Sur. Show gas and oil cored 4,838-45 ft.; T.D. 5,056 ft.; set 7-in. to 4,818 ft. to test showing 4,819-37 ft. in Marble Falls; last report.
Fortex Oil Co. No. 1 Davis, sec. 23, Blk. 12, T.&P. Sur. D.&A. 1,477 ft.
R. H. Gordon & Frank Pethybridge No. 1 C. B. Snyder, 330 ft. fr. N and E lines, sec. 38, L.A.L. Sur., 4,500-ft. test. U.R. 1,320 ft.
J. G. Hammond No. 1 Coker, 1,620 ft. from S line and 1,020 ft. from W line, sec. 159, B.B.B.&C. Sur. Drlg. 3,574 ft.; H.F.W.
Jones & Stasney No. 1 Davis, sec. 50, Blk. 13, T.&P. Sur. Loc.
D. W. Power No. 1 Black Ranch, C SE 80 ac. of NE½ sec. 391, T.E.&L. Sur., Ellenburger test.

Stephens County

Lone Star No. 1 E. H. Brooks, 400 ft. from S and W lines, NE 200 ac. of sec. 54-7, T.&P. Sur. Fsg. 2,137 ft.
Lone Star No. 1 J. S. McKee, 660 ft. from N line, 660 ft. from W line, sec. 41-7, T.&P. Sur. U.R. 3,724 ft.
G. Willard Rich No. 1 J. W. Andrews, 330 ft. W line, 450 ft. S line, NW¼ sec. 39-7, T.&P. Sur. Tstg. through tbg.; est. 35 B.O.P.D.; T.D. 3,685 ft.

Taylor County

A. R. Forester et al No. 1 Frederickson, sec. 1, Guadalupe Co. Sch. Lds. Sur. No. 120. Drlg. 1,705 ft.
Lewis Production No. 1 L. Henslee, 330 ft. from E L of 234-ac. tract in J. A. Nabors Sur. No. 10 and sec. 27-17, T.&P. Sur., 3 mi. E of Merkel, D.&A. 2,717 ft.

Throckmorton County

Beacon O. & R. Co. No. 1 Hawes Est., sec. 979, T.E.&L. Sur. S.D. wait on spudder 4,024 ft.
Jones & Stasney No. 1 C. T. Brockman, 330 ft. S line, 330 E line sec. 95 Comanche Indian Sur. T.D. 4,706½ ft.; est. 1,000 to 1,500 B.O.P.D.; U.R. 4,706½ ft.
Marland-Drake No. 1 Dickie Bros., center T.E.&L. Sur. 2226. S.D. 4,085 ft.
Stasney et al No. 1 Hunt, sec. 965, T. E.&L. Sur. U.R. 1,628 ft.
White & Duncan No. 1 Raynolds Cattle Co., 330 ft. from S and W lines, NE¼ sec. 83, Comanche Indian Reservation. Drlg. by tools 2,230 ft.
Henry Zweifel No. 1 J. H. Lee, 4 mi. NE of Woodson, 930 ft. from E line and 2,011 ft. from S line of J. A. George Sur. D.&A. 3,924 ft.

NORTH TEXAS WILDCATS

Archer County

Fain-McGaha No. 1 McCrory G, sec. 44, A.T.N.C.L. Sur. 6⅝-in. csg. 4,720 ft.; O.S. 4,727-58 ft.; drlg. plug; had 3,000 ft. oil in 12 hrs.; now R.U.S. to C.O.
Helmerich & Payne et al No. 2 L. F. Wilson, Blk. 25, A.T.N.C.L. Sur. Testing at 5,105-16 ft.
Panhandle Ref. Co. et al No. 1 H. O. Prideaux, A. Rohus Sur. A-1126. Drlg. 1,300 ft.
Louis Sikes et al No. 1 Ford, T. M. Cecil Sur. A-982. 4,500-ft. test; Tstd. S.W.; S.D.O.

Baylor County

J. Rogers No. 1 C. F. Elam et al, J. Smith Sur. A-285. S.D. 1,492 ft.

Clay County

L. T. Burns No. 1 Lyles, S.A.U.A. Sur. No. 403. Drlg. 2,815 ft.
Walter Gant No. 1 Bryant Edwards, S. C. Beldon Sur. A-12. 6,000-ft. test. S.L. 5,994-6,016 ft.; running 6⅝-in.
Wood Pet. & Roy. Corp. No. 1 I. H. Kempner, Blk. 44, Bosque Co. Scn. Ld. Sur. A-10. S.D.O. 2,330 ft.

Cooke County

Sinclair Prairie Oil Co. No. 1 Mrs. J. D. Putnam, T. W. Ward Sur. No. A-1089. Drlg. 3,890 ft.

Denton County

A. T. Campbell No. 1 W. C. Kimbrough, R. Howard Sur. No. A-543. Loc.

Foard County

Wynne & Ed S. Smith No. 1 Worsham, J. M. Clay Sur. S.D.O. 5,121 ft.

Hardeman County

Hillsboro Oil Co. No. 1 Thomas, sec. 314, W.&N.W. Sur. Spudded and set surf. csg.

Jack County

Noah Daves No. 1 K. D. Baker, sec. 2709, T.E.&L. Sur. 4,000-ft. test; S.D.O. 1,930 ft.

Knox County

Roeser Pendleton and I.T.I.O. No. 1 G. H. Beavers, sec. 151, H.&T.C. Sur. Drlg. 2,490 ft.

Montague County

H. H. Powell No. 1 Arch Durham, W. J. Wagoner Sur. A-936. S.D. 822 ft.
J. W. Sorrell et al No. 1 J. E. Walthall, Sam H. Smith Sur. A-662. S.D. 3,777 ft.

Wichita County

Continental Oil Co. No. 1 State Ins. Asylum, Blk. 1, Cherokee Co. Sch. Ld. 6⅝-in. 5,075 ft.; SL 5,076-5,128 ft.; drlg. plug; flwd. 90 bbls. in 3 hrs.; trtd. with 8,000 gal. acid; est. 150 B.P.D.; tstg.
Hanlon Buchanan, Inc., No. 1 Fassett & Tuttle-D, sec. 23, Cherokee Co. Sch. Ld. S.D. 5,450 ft.
Madden & Goldsmith No. 1 Jackson, Blk. 20, Denton Co. Sch. Lds. S.D.O. 4,505 ft.; 6⅝-in. 2,742 ft.; perf. csg. 2,630-41 ft.; H.F. oil; W.O.T.

Wilbarger County

Consolidated Oil Co. No. 1 Ancell, sec. 35, H.&T.C. Sur. Loc.
Target Drlg. Co. No. 1 W. T. Waggoner, sec. 27, H.&T.C. Sur., Blk. 6. Drlg. 400 ft.

Young County

Horwitz & Oldom No. 1 C. J. Taach B, sec 248, T.E.&L. Sur. Drlg. 3,605 ft.; 6⅝-in. 4,113 ft.; G.L. 4,113-36 ft.; show oil; W.O.C.

Ontario Drilling

In the Dover field, Kent County, Ontario, Prairie Oil & Gas Co. No. 7, Lot 5, Front Concession, Dover East Township, has resumed after cementing 6⅝-inch casing in top of the Trenton limestone at 2,870 feet. A fair show of gas was encountered in the top of the lime.

In the Tilbury field, Kent County, Union Gas Co. No. 301, Lot 9, Concession 15, Tilbury East Township, finished at 1,375 feet with about 100,000 feet a day. Union No. 302, Lot 11, Concession 11, finished around the same depth with a very small show of gas, and was abandoned and plugged. Union No. 303, Lot 180, Talbot Road, Rommey Township, finished below 1,275 feet with 600,000 feet a day. Union No. 304, same lot, bottoming around 1,275 feet, is cleaning out after a shot, and looks good for 400,000 feet a day.

In the De Clute field, Kent County, Union Gas Co. No. 41, Lot 146, Talbot Road, Raleigh Township, is rigging.

In the Dawn field, Lambton County, Union Gas Co. No. 95, Lot 23, Concession 14, Dawn Township, finished a dry hole at 1,922 feet.

In the Dutton field, Elgin County, Union Gas Co. No. 1, Lot 16, Concession 12, Dunwich Township, finished a dry hole at 1,805 feet. An important new wildcat test has been started by the Union Gas Co. in Malahide Township, Elgin County. No. 1 Malahide, Lot 25, Concession 7, is below 1,200 feet and is a test of a potential gas area west of the earlier Elgin fields. In Haldimand County, Union Gas Co. No. 207, Lot 3, Concession 3, Rainham Township, is below 630 feet. In Norfolk County, Harvey Series No. 1, N half Lot 20, Concession 4, Windham Township, finished around 1,000 feet as a small gasser, about 6,000 feet a day. In the Brownsville field, Oxford County, Reed-Adams No. 2, Hawkins Estate, Lot 25, Concession 12, Dereham Township, finished around 930 feet with 3,200,000 feet a day. Reed-Adams No. 3 has been located on the same farm. Adams & Aikens No. 1 Lucas, Dereham Township, finished at 930 feet as a small producer, around 200,000 feet a day. Western Ontario Gas Co. has spotted a test in Lot 2, Concession 9, Bayham Township, Elgin County.

STANDARD OIL CO. OF CALIFORNIA AND UNION OIL CO.

Crude oil prices at the well effective June 22, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier-E. Coyote (La Habra)	Montebello	W. Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills	Buena Vista Hills	Midway-Sunset	Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Santa Paula*	Orcutt*
14-14.9	$.80	$.79	$.74	$.78	$.79	$.80	$.76	...	...	...	$.80	$.76	$.76	$.77	$.78	...	...	$.70	$.70	$.70	...	...	$.70	...
15-15.9	.80	.79	.74	.78	.79	.80	.76	...	...	...	.80	.76	.76	.77	.78	...	...	.70	.70	.70	...	...	.70	...
16-16.9	.80	.79	.74	.78	.79	.80	.76	...	...	...	.80	.76	.76	.77	.78	...	...	.70	.70	.70	...	...	.70	$.70
17-17.9	.80	.79	.74	.78	.81	.80	.76	...	...	...	.80	.76	.76	.77	.78	...	...	.70	.70	.70	...	...	.71	.70
18-18.9	.80	.79	.74	.78	.84	.80	.78	...	...	...	.82	.76	.76	.77	.78	...	...	.70	.70	.70	...	...	.73	.72
19-19.9	.82	.79	.74	.82	.87	.84	.81	...	...	...	.85	.76	.78	.77	.78	...	$.70	.74	.74	.71	$.70	...	.75	.74
20-20.9	.85	.79	.74	.85	.90	.88	.84	...	...	...	.88	.78	.82	.77	.80	...	.70	.78	.78	.72	.70	...	.77	.77
21-21.9	.88	.79	.74	.89	.93	.93	.88	...	...	...	.91	.80	.85	.77	.84	$.78	.73	.82	.82	.74	.70	...	.79	.80
22-22.9	.92	.82	.74	.92	.96	.96	.92	...	...	...	.93	.84	.89	.79	.88	.78	.77	.87	.86	.78	.72	...	.82	.83
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$.84	$.79	...	.96	.88	.93	.82	.92	.78	.80	.92	.90	.82	.76	...	.85	.86
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	...	.99	.91	.96	.85	.96	.82	.84	.97	.94	.86	.79	...	.87	.88
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	...	1.02	.95	...	.89	.99	.86	.88	1.01	.98	.90	.83	...	.90	.91
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.96	.86	...	1.05	.98	...	.92	1.03	.90	.91	1.06	1.02	...	...	...	.92	.93
27-27.9	1.10	1.05	.88	1.11	1.12	...	1.10	1.03	.88	...	...	1.02	...	.96	1.06	.95	.95	1.10	1.06	...	...	...	.95	...
28-28.9	1.14	1.10	.90	1.14	1.15	...	1.14	1.07	.90	...	...	1.06	...	.99	1.10	.99	.99	1.15	1.10	...	...	...	.97	...
29-29.9	1.17	1.15	.93	1.18	F.O.B.	1.17	1.12	.93	...	...	...	1.09	...	1.03	1.14	1.03	1.02	1.20	1.14	...	...	...	.99	...
30-30.9	1.21	1.19	.95	1.22	1.21	our	1.21	1.17	.95	F.O.B.	...	...	...	1.07	1.17	1.06	1.06	1.25	1.18	...	...	...	1.01	...
31-31.9	...	...	...	...	1.24	Pipe	1.24	1.22	.97	Ship	...	...	...	1.11	1.21	1.12	1.09	1.29	...	...	...	...	...	...
32-32.9	...	...	...	...	1.27	Line	1.27	1.27	1.00	...	...	...	...	1.14	1.25	1.16	1.13	1.34	...	...	...	...	...	...
33-33.9	...	...	...	...	...	...	...	1.32	...	$1.28	...	...	...	1.18	1.28	1.20	1.17	1.38	...	...	...	$1.19	...	...
34-34.9	...	...	...	...	...	...	...	1.37	...	1.32	...	...	...	1.22	1.32	1.25	1.20	...	...	...	...	1.23	...	...
35-35.9	...	...	...	...	...	...	...	1.42	...	1.35	...	...	...	1.25	...	1.29	...	...	...	...	...	1.27	...	...
36-36.9	...	...	...	...	...	...	...	1.46	...	1.39	...	...	...	1.29	...	1.33	...	...	...	...	...	1.31	...	...
37-37.9	...	...	...	...	...	...	...	1.51	...	1.43	...	...	...	1.32	...	1.37	...	...	...	...	...	1.35	...	...
38-38.9	...	...	...	...	...	...	...	1.56	...	...	...	...	...	1.36	...	1.42	...	...	...	...	...	1.39	...	...
39-39.9	...	...	...	...	...	...	...	1.61	...	...	...	...	...	1.40	...	...	...	...	...	...	...	1.43	...	...
40-40.9	...	...	...	...	...	...	...	1.66	...	...	...	...	...	1.43	...	...	...	...	...	...	...	...	...	...

Newhall, McKittrick, Kern River, Kern Front and Round Mountain, 70 cents for all grades. *Posted by Union Oil Co. Same company's Brea Canyon schedule stops at $1.14 for 28 degrees and over, and Belridge and Lost Hills schedule stops at $1.32 for 37 degrees and over. By Standard Oil Co., effective October 15: El Segundo, 14 to 18.9 degrees, 80 cents; 19-19.9, 82 cents; 20-20.9, 85 cents; 21-21.9, 88 cents; 22-22.9, 92 cents; 23-23.9, 95 cents; 24-24.9, 99 cents; 25-25.9, $1.03; 26-26.9, $1.06; 27-27.9, $1.10; 28-28.9, $1.14; 29-29.9, $1.17; 30-30.9, $1.21. Wilmington, 14 to 16.9, 75 cents; 17-17.9, 77 cents; 18-18.9, 79 cents; from 19 degrees upward, prices same as Signal Hill.

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1938 High	1938 Low	Week ending July 30 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1937	1937 High	1937 Low	1936 High	1936 Low
78	55	2,100	77¾	74	74	Amerada Corp.	788,675	N.P.	50cQ	7-30-38	$2.00	114⅞	51½	125½	75
27⅜	17¾	8,300	27⅛	24½	24⅝	Atlantic Refining	2,663,999	$25	25cQ	6-15-38	1.00	37	18	35⅛	26⅝
23⅜	12⅛	8,700	23⅜	19⅝	20¼	Barber Asphalt Co.	390,223	$10	75c	12-16-37	1.00	43⅝	10⅛	38½	21
21⅜	10⅛	15,700	21	19	20	Barnsdall Oil Co.	2,250,344	$5	25cQ	8-1-38	1.00	35¼	10	28¼	14⅛
10¾	7	30,200	10¾	10	10¼	Consolidated Oil Corp.	13,915,167	N.P.	20cQ	8-15-38	.90	17⅞	7	17¼	11½
35¾	21¼	16,400	35¾	34	35⅛	Continental Oil of Delaware	4,682,583	$5	25cQ	9-30-38	1.50	49	24	44⅞	28⅛
9¾	5	18,400	9¾	8⅝	9	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	17⅝	4¾	13⅞	6⅝
22⅝	12¼	7,500	21½	19⅛	19⅛	Mid-Continent Petroleum	1,857,912	$10	25c	6-1-38	1.50	35⅝	14	30⅞	17¼
17⅝	10⅝	300	17	16½	16½	Mission Corporation	1,382,945	$10	$1	6-29-38	1.25	34	15	29⅞	16⅝
23	14⅛	20,100	22¼	19¼	20	National Supply	1,155,170	$10	$2 pf.‡	12-22-37	(‡)	41⅜	17⅝	75½	19⅞
14⅞	9	25,400	12⅝	11¾	12	Ohio Oil Co.	6,563,377	N.P.	50c	12-15-37	1.00	22⅞	8	18	12⅛
15⅞	10¼	500	14	13½	13½	Pacific Western Oil	1,000,000	N.P.	75c	12-15-37	.75	29⅜	11⅜	23½	11⅜
9¼	7	100	8⅞	8⅞	8⅞	Pan American Pet. & Trans.	4,702,945	$5	$1 *	12-21-37	1.00	17⅛	7	20⅝	12¼
44¾	27¼	16,200	43¾	40¾	42	Phillips Petroleum	4,449,052	N.P.	50cQ	9-1-38	2.75	64	30½	52⅝	33⅛
25⅜	15	5,700	25⅜	23¾	24	Plymouth Oil Co.	1,029,800	$5	35cQ	6-30-38	1.65	29⅞	13	27⅜	11⅞
13½	8¼	29,300	13⅜	11⅝	12⅛	Pure Oil Co.	3,285,120	N.P.	25c	12-1-37	.25	24⅜	8¾	27⅞	16
8⅞	5	70,600	8⅞	7	8¾	Richfield Oil Corp.	3,896,638	N.P.	25c	12-24-37	.25	6½	4⅛	..	..
27½	15½	1,400	26¼	24	24⅜	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	9-15-38	1.00	54⅛	16	44	30½
18⅜	10	6,100	18	16¾	17½	Shell Union Oil	13,070,625	N.P.	35c	7-15-38	1.00	34¾	14⅞	28¼	14¾
34⅜	18½	4,100	32¼	30¼	30¼	Skelly Oil	1,003,949	$15	50c	6-25-38	1.50	60⅝	26½	47⅜	19½
16⅜	10¾	35,500	16	14⅞	15	Socony-Vacuum	31,151,071	$15	25c	3-15-38	.80	23¼	13	17½	12½
34⅞	25⅛	12,500	34⅞	32	33¼	Standard Oil of California	13,014,754	N.P.	35cQ†	6-15-38	2.00	50	27⅛	47⅝	35
35½	24¾	12,000	35	33⅛	34	Standard Oil (Indiana)	15,267,030	$25	25cQ	6-15-38	2.30	50	26½	48½	32¾
35½	32½	No sales	..	..	..	Standard Oil of Kansas	112,837	$10	$5	12-20-37	5.00	43	30⅝	31	25
58⅝	39¾	21,400	58⅝	55¼	57	Standard Oil of New Jersey	26,224,767	$25	$1SA†	6-15-38	2.50	76	42	70⅜	51⅛
59	45	300	58½	57	57	Sun Oil	2,316,484	N.P.	25cQ	9-15-38	$1 & 8% Stk.	77½	44½	91	70
3⅞	1¾	31,300	3⅞	3⅛	3⅞	Superior Oil Corp.	1,388,079	$1	....	....	....	7¾	1½	6¾	3
49⅝	32⅝	28,100	49⅜	45⅞	47¼	Texas Corp.	10,875,006	$25	50cQ	7-1-38	2.25	65⅛	34¾	55¼	28⅞
5¼	2⅝	29,400	5¼	4¼	5¼	Texas Gulf Producing Co.	888,137	N.P.	10c	12-23-37	.10	9⅝	2	8⅞	4⅜
12	7	11,500	12	11	11½	Texas Pacific Coal & Oil	888,237	$10	10c	6-1-38	.40	16⅝	5⅜	15¼	7½
15¾	10⅛	11,800	15¾	14⅝	15	Tide Water Associated	6,369,175	$10	25cQ	6-1-38	1.20	21⅝	13⅛	21⅜	14⅜
22¼	17⅛	4,000	22¼	21	21⅝	Union Oil of California	4,666,270	$25	30cQ	8-10-38	1.40	28¼	17½	28½	20⅝
23½	20	1,200	22¼	21½	22¼	Union Tank Car Co.	1,200,000	N.P.	30cQ	6-1-38	1.60	31½	22	31⅝	22⅝
3⅛	1⅝	1,600	3	2⅞	3	Wilcox Oil & Gas	506,522	$5	....	5-10-28	....	6¼	1⅜	5¼	2⅜

*Payable in 3½% notes. †Includes extras. ‡One-tenth share $2 preferred stock

New York Curb Exchange

1938 High	1938 Low	Week ending July 30 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1937	1937 High	1937 Low	1936 High	1936 Low
11	5	7,500	10¾	9½	9¾	American Republics Corp.	1,308,049	$10	10c	7-11-38	$0.40	10	6⅝	..	..
10¼	5⅛	2,600	8½	7¼	7⅝	Bridgeport Machine Co.	260,000	N.P.	1.25	12-30-37	$2.00	21⅜	7	21	13¼
39	31	50	31½	31½	31½	Buckeye Pipe Line Co.	200,000	$50	50cQ	6-15-38	3.75	51½	36	50	39¾
112	97	No sales	..	..	..	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	6-27-38	7.00	123	95½	124¾	105
11	7¾	4,700	10	9½	9½	Cities Service (new)	3,714,317	$10	....	6-1-32	....	5⅝	1½	7⅜	3
2⅜	⅞	800	1⅜	1⅛	1¼	Cosden Petroleum	462,551	$1	....	.....	....	5½	1½	4½	1½
27½	17½	9,000	24½	23½	23⅝	Creole Petroleum	6,975,383	$5	50cSA†	6 10-38	1.00	38¾	20¼	39	19⅞
9⅞	5½	1,900	9⅞	8⅜	9¾	Darby Petroleum	351,390	$5	25cSA	7-15-38	.50	18⅝	6½	18⅛	9
3½	2	400	2¾	2¾	2¾	Derby Oil & Refining	263,162	N.P.	....	....	....	8⅜	2¼	6¾	1⅞
31	22	No sales	..	..	..	Eureka Pipe Line	50,000	$50	50c	8-1-38	4.00	47½	24½	47½	38½
46⅞	33	5,400	46⅞	44	44¾	Gulf Oil Corp.	9,076,202	$25	25cQ	7-1-38	1.00	63½	33	59	36
72⅝	56	4,500	72	69	70	Humble Oil & Refining	8,987,840	N.P.	37½c	7-1-38	2.00	87	54⅞	80	57
19½	15	1,800	17	16¾	17	Imperial Oil of Canada	26,965,078	N.P.	62½cSA†‡	6-1-38	1.25	24¼	14½	24½	19¾
9¼	6⅝	600	9¼	8⅞	9¼	Indiana Pipe Line	300,000	$10	30c	5-14-38	.80	15	5⅜	9¾	5½
31¼	23	5,400	26¼	25½	26	International Petroleum	14,324,088	N.P.	$1.25†‡	6-1-38	2.50	39½	23½	39⅝	32⅝
5	3	600	4	3⅞	3⅞	Kirby Petroleum Co.	500.000	$1	10c	4-15-38	....	8¾	2⅜	5⅜	2⅝
25⅛	15⅝	2,200	23½	22⅝	22⅝	Lion Oil Refining	434,820	N.P.	25cQ	7-25-38	1.50	34	12½	17⅜	7⅜
10¼	6⅝	5,400	10¼	9¾	9⅞	Lone Star Gas	5,533,747	N.P.	20c	8-20-38	.60	14¼	5¼	14¼	9⅞
9⅜	6½	3,600	9½	8½	8⅞	Louisiana Land & Exp.	2,977,449	N.P.	10cQ	9-15-38	.50	15¼	6¾	15⅝	9⅞
8⅝	6⅜	1,500	8⅝	8⅜	8½	Midwest Oil Co.	998,444	$10	50c	6-15-38	1.00	14⅝	6¼	..	..
5⅜	4½	2,000	5⅝	5½	5½	Mountain Producers	1,593,584	$10	30cSA	6-15-38	.60	7⅞	4⅛	8⅜	5
14⅝	12	1,400	12⅝	12¼	12¼	National Fuel Gas	3,810,183	N.P.	25cQ	7-15-38	1.00	19½	12	23	17⅜
9¼	7¼	200	7⅞	7⅞	7⅞	National Transit	509,060	$12.50	35cSA	6-15-38	1.00	12½	7¼	15⅜	9¼
2⅝	1½	300	2¼	2⅛	2⅛	New Mexico and Arizona	1,000,000	$1	1c	12-1-36	....	5	1⅛	6⅝	1⅝
4½	4	No sales	..	..	..	New York Transit	100,000	$5	15c	4-15-38	1.00	5⅜	3⅞	6¼	4¼
6	4	200	5½	5¼	5¼	Northern Pipe Line	120,000	$10	20c	6-1-38	1.00	12⅜	5⅜	9⅜	4⅞
7⅜	3⅜	24,200	5¼	4½	4⅝	Pantepec Oil	2,441,142	$1	....	.....	....	9⅝	2⅜	10⅛	3¼
3½	1⅝	700	3⅛	2⅞	2⅞	Root Petroleum Co.	336,045	$1	25c	2-1-37	.25	13⅜	2	19¼	4½
4	2⅛	300	3½	3½	3½	Ryan Consolidated	296.931	N.P.	....	.....	....	6½	2¼	4⅜	1⅞
5⅜	3⅝	No sales	..	..	..	Southern Pipe Line	100.000	$10	15cSA	3-1-38	.45	7¼	3⅝	7⅞	3¼
39	28¾	....	37	36	37	South Penn Oil	1,000,000	$25	50cQ†	6-30-38	3.65	56	35	44	32½
22¼	19	50	21	21	21	Southwest Penna. Pipe Lines	35,000	$50	50cQ	7-1-38	2.00	42	20	60	44
18¾	15	3,200	18½	18	18	Standard Oil of Kentucky	2,604,790	$10	25c	6-15-38	1.50	21⅛	14¾	23⅜	17⅛
7½	6⅛	500	6½	6¼	6¼	Standard Oil of Nebraska	166,403	$25	25c	3-29-37	.25	13¾	8	14⅝	11
22⅜	16¼	1,200	22½	21½	21½	Standard Oil of Ohio	753,740	$25	25c	6-15-38	1.50	45	16	40	21¾
3¼	2⅛	1,900	2⅞	2⅝	2⅝	Sunray Oil	2,006,176	$1	10c	12-24-37	.25	4⅞	2	5	2⅝
5	3½	500	4¾	4½	4¾	Texon Oil & Land	936,024	$2	15cQ	6-30-38	.45	7⅝	2	9¾	5⅜
7⅝	4¼	3,900	7⅝	6⅝	6⅝	Transwestern Oil Co.	750,000	$10	....	.....	....	13⅞	4⅝	..	..
5¼	2¾	17,600	4¾	4	4	United Gas Corp.	7,818,959	$1	....	.....	....	13⅜	3	10¾	4

†Includes extras. ‡Payable in Canadian funds. §Of which $1 was in preferred stock.

PERSONAL

J. E. BAILEY, division engineer for the Tide Water Associated Oil Company in the East Texas division, has been transferred to Houston, where his work will be concerned with engineering and proration matters.

R. F. McCONNELL, assistant general manager of sales of Standard Oil Company (Indiana), was elected August 1 to the seat on the board of directors vacated by the death of R. H. McElroy, vice president in charge of traffic, on June 25.

EDWIN B. COX, of Edwin B. Cox and Jake L. Hamon, of Ardmore, Okla., has moved to Dallas, Tex., where the firm will be located in the Magnolia Building. Mr. Cox has leased a residence at 4400 Bordeaux, where he, MRS. COX and their son, EDWIN L., will reside.

ROY SILER, independent operator, Houston, Tex., is in Wyoming on a vacation trip. He will be gone until September 5.

GRADY MEADOR, division manager for the Gulf Oil Corporation in New Orleans, La., has returned, with MRS. MEADOR, from a two months' trip in Europe.

HARRY HOLMES, vice president, Quintana Petroleum Company, Houston, Tex., attended the American Bar Association convention at Cleveland, Ohio.

KATSUTOSHI KURODA, assistant manager of Asano Bussan Company, with offices in New York, sailed from Los Angeles, Calif., for the headquarters of the company in Tokio.

L. E. BARROWS, manager of the production department, for the Texas Company, Houston, Tex., following an inspection tour of company properties in New Mexico and the Rocky Mountain district, will join his family in Denver for a vacation trip through the West to the Pacific Coast.

MAJ. HARRY G. DAVIS, Gulf Oil Corporation representative on the board of the Kuwait Oil Company, LTD., jointly owned by Gulf and Anglo-Iranian Oil companies, is on vacation in the United States. Major Davis was accompanied by his family and will return to London probably in August.

D. B. MYERS, manager of exploration for the Union Oil Company and previously chief geologist, has returned to his headquarters in Los Angeles, Calif., following a business and pleasure trip to the East Coast during which he renewed acquaintances with old classmates and saw his son graduate from the Harvard School of Business.

PLEAS O. HARDWICK, vice president of the Atlas Pipeline Corporation, Shreveport, has moved into his new country home located on Cross Lake, Louisiana.

H. W. CAMP, general manager, and L. D. MANN, general superintendent of refineries for the Cities Service Oil Company, attended the managers' meeting in Bartlesville, Okla., on Monday of this week.

W. E. LEROUX, division engineer for the Carter Oil Company at Ardmore, Okla., will sail August 6 for Budapest, Hungary, to be in charge of production for the Standard Oil Company of New Jersey. He will be accompanied by his bride of a few months, the former Miss Frances Fagan. They will be away three years or more.

HAROLD WYATT, formerly production manager for Shell Oil Company in the San Joaquin Valley division, has been made assistant production manager for the State of California under F. C. REHM, general manager. Mr. Wyatt's former position has been taken by E. W. MASTERS.

MAX LaGROSILLIERE, drilling superintendent for the Cane Creek Oil Company, is in Utah directing work on the company's No. 1 Government test on the west bank of the Colorado River. All drilling supplies must be shipped down the river by barge. Recently 1,000 feet of casing was lost when a barge struck a rock and sank.

C. E. BUCHNER, executive manager of the Independent Petroleum Association of America, and RUSSELL B. BROWN, general counsel, have been attending meetings of the association in the western states. The first was held by Montana operators, after which the two went to Casper, Wyo., for a meeting on July 26. Their next stop was to be at Colorado Springs, Colo., on July 28.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

All that is left of the famous oil town of Pithole, Venango County, Pennsylvania, is a church on the summit of a hill, erected by a Pithole man in the late sixties. Grain fields cover the rest of the town site. The town once had a population of 10,000 or more.

Alexander Warner and J. H. Caldwell, of Titusville, Pa., buy the Devonian Oil Company and Kerr properties in the Coody's Bluff-Chelsea field, in Oklahoma. The purchase includes 1,000 acres of leases and 100 producing oil wells. Consideration is given as $100,000.

Edwin Orrin Crawford, 45, one of the best known oil and gas operators in the United States, dies at Emlenton, Pa., from injuries received in an automobile wreck.

20 YEARS AGO

A Japanese oil trade journal says Hoden Oil Company No. 30, in Toyokawa field, is good for 50 koku of oil per day, net.

The Ways and Means Committee of the House of Representatives in Washington has adopted a 2-cent tax on gasoline, and an excise tax on automobiles which will be in addition to the 10 per cent tax on manufaturers' sales recently adopted by the committee. The gasoline tax would bring from $40,000,000 to $45,000,000 and the other taxes named are expected to yield not less than $125,000,000. These are considered as luxury taxes. Automobile owners agree with General Sherman in his remarks about war.

10 YEARS AGO

Twenty representative oil stocks on the New York Stock Exchange and New York Curb average $64.48 per share. The high average this year was $71.31 per share in the week of April 30.

The Texas Corporation, Skelly Oil Company and Columbian Carbon Company combine to pipe natural gas from the Amarillo, Texas, fields to Omaha, Neb., through a subsidiary.

BOB TESCH, assistant district engineer for Stanolind Oil & Gas Company in Fort Worth, Tex., has gone to Mexico City for a vacation.

GEORGE B. CORLESS, superintendent Gulf Coast division, Humble Oil & Refining Company, Houston, Tex., is spending his vacation in the mountains of Colorado.

EARL NOBLE, chief geologist for Union Oil Co. of California, is on a field trip in Nebraska where his company is drilling a test on the Agate anticline in Sioux County.

J. H. McMAHON, division manager of the Texas Company at Fort Worth, Tex., is on a prolonged vacation which may last four or five weeks. MR. COLE will assume his duties during his absence.

FRANK MORGAN, recently made a vice president of the Richfield Oil Corporation, Los Angeles, Calif., is recovering from an operation for appendicitis at the Monte Sano Hospital in that city. Mr. Morgan heads Richfield's geological department.

F. E. HATFIELD, Gulf Oil Corporation production superintendent in the West Texas district with headquarters at Odessa, has been assigned to duty in Venezuela with Mene Grande Oil Company, a Gulf subsidiary, where he will be in charge of development work.

TORREY H. WEBB, of the Texas Company, has been named vice president and general manager of the company's California unit. HARRIS T. DODGE, assistant sales manager, has been appointed assistant to Mr. Webb. C. E. OLMSTED, elected vice president of the parent company, will continue as president of the California unit and will maintain offices in both New York and Los Angeles.

PARAGRAPHS

FRANK McATEER, superintendent of operations for Caminol Oil Company of California, has been in Bakersfield for a week making preparations for a 12,000-foot test in Tulare County.

ARTHUR R. CAMPBELL, secretary of the Louisiana-Arkansas Division of the Mid-Continent Oil and Gas Association, is accompanied by MRS. CAMPBELL on a motoring vacation through the southeastern states.

A. A. CARREY, consulting geologist and engineer and president of the Nedal Oil Company, and also of the Burnal Oil Company, both of Long Beach, Calif., will leave early in August for a trip into the Bench Lakes region of the Sierra Nevada. The destination selected is one of the most inaccessible parts of the United States, and no fishing parties have been known to have reached it in the last seven years. Mr. Carrey will be accompanied by C. E. KENYON, his business partner, and ARTHUR WALLACE, engineer for the Taft Well Drilling Company.

C. T. DRANEY, engineer for Bechtel, McCone, Parsons Corporation, Los Angeles refinery construction firm, is at present engaged in consulting work for the Portland Gas Company at Portland, Oregon.

CLARK BARTON, of the Lion Oil Refining Company, El Dorado, Ark., was recently elected chairman of a group of oil company representatives in the seventh congressional district of Arkansas, which drew up a resolution opposing the federal tax on gasoline and oil. Other officers of the association are F. R. JOHNSON, Standard Oil Company of Louisiana, Hope, secretary; W. E. PRYOR, Texas Company, Camden, chairman of public relations; and S. W. HOUSTON, Arkansas Fuel Oil Company, Lake Village, chairman of legislative committee.

JOHN CODY, superintendent for Superior Oil Company in the Mid-Continent, was a recent visitor in the San Joaquin Valley fields of California where he was formerly employed by Superior.

SID BINION, of the Shell Petroleum Corporation, was recently moved from the company's Shreveport office to Houston, Tex., where he will join the scouting department in the Gulf Coast division.

HENRY E. GROSS has been appointed associate professor in petroleum engineering at Texas A. and M. College for the coming school year. Professor Gross received his B.S. degree from Missouri School of Mines, his M.S. degree at the University of Illinois, and E.M. from his alma mater, Missouri School of Mines. For the past two years he has been teaching at University of Oklahoma.

H. L. HUNT, of the Hunt Oil Company of Dallas, East Texas field operator, is in New York City.

C. W. NELSON, purchasing agent, Fohs Oil Company, Houston, Tex., is spending his vacation in New York.

J. C. MILLER was chosen president and K. G. PINGREE vice president of the Columbia Oil Company, Portland, Ore., at a recent organization meeting.

G. L. NOBLE, vice president of the Texas Co., Houston, Tex., is spending several weeks' vacation at his ranch near Montel, Uvalde County, Tex.

C. E. YAGER, chief geologist and vice president of the Texas Pacific Coal & Oil Company of Fort Worth, Tex., left last week for a month's vacation.

J. B. AUG. KESSLER, managing director of the Royal Dutch-Shell group with headquarters in London and The Hague, Holland, is a business visitor in the United States.

L. H. MACK, of the General American Oil Company, at Gladewater, Tex., has been made chief engineer of the Bell Oil & Gas Company, at Overton, in East Texas.

E. B. HALL, an executive of the Union Pacific Railroad Company, has been elected chairman of the Wilmington-Long Beach Harbor field proration committee. The Union Pacific has large holdings in the field.

J. S. HELM, of the Standard Oil Company of New Jersey and president of the Asphalt Institute, is preparing a paper on world progress in highways as reported to the eighth International Road Congress at The Hague, Holland, which he attended as a delegate from the United States Government.

Baseball Missed a Bet

Baseball missed a bet when J. G. Dyer, Continental Oil Company's new vice president, forsook the outfield for the oil field. At 35 he is believed the youngest executive of a major oil company. Mr. Dyer was playing semiprofessional baseball in Wyoming in 1925 when he was offered a contract with the Cardinals. Two years later he was scouted out by San Francisco, in the Pacific Coast league. He refused both offers.

J. G. DYER

Mr. Dyer was born in Morgan City, La., and attended school there, between baseball games, until he left home to make his own way. He held various jobs until he went to Wyoming in 1923 to work as a roustabout for the Mutual Oil Company, later merged with the Continental. He was advanced to field superintendent, production foreman, then production district superintendent. In 1933 he became manager of the Continental Pipe Line Company, with headquarters in Ponca City, Okla. The next year he was elected vice president of that organization and assistant manager of the Continental Oil Company's production department. In 1935 he was made manager of Continental's production and drilling east of the Rocky Mountains. In May, 1938, he was chosen vice president of the Continental Oil Company, in charge of drilling, production, crude trading, and natural gasoline plant operations east of the Rockies. Mr. Dyer married Miss Ella Rathvon, of Casper.

S. A. THOMPSON, chief geologist of the Magnolia Petroleum Company in Dallas, Tex., is on a vacation in the eastern states.

A. S. BAILEY, vice president, Texas Pipe Line Company, Houston, Tex., is on his way to Sweden, where he will attend the wedding of his son August 15.

S. E. SLIPPER, director and chief geologist of the Canadian Western Natural Gas Company, of Calgary, Ontario, was recently elected a fellow of the Royal Society of Canada.

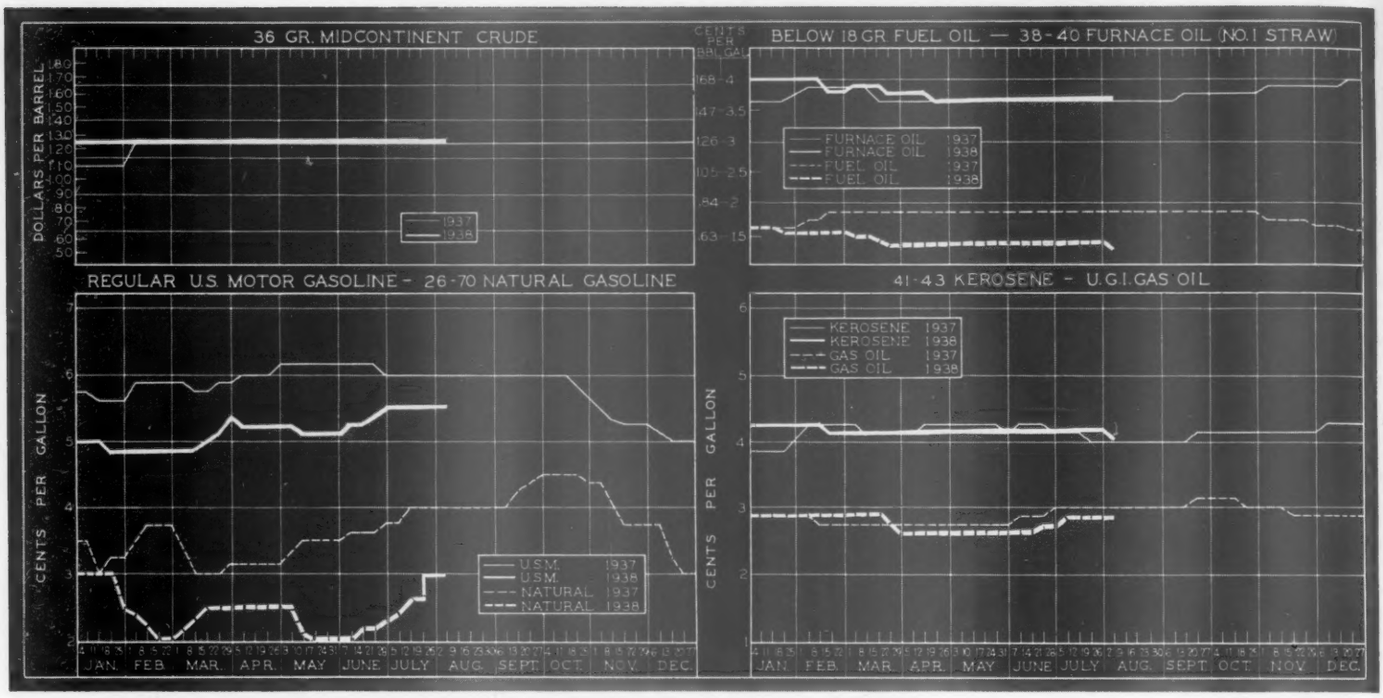
JOHN H. LANGSTON, chief scout for the Sun Oil Company in Dallas, Tex., left last week for a vacation with his family in Galveston, New Orleans, and Gulf Coast points.

G. R. POTHE, driller for Continental Oil Company at Fullerton, Calif., has been spending his vacation at Casper, Wyo. He was formerly an operator in the Big Muddy field.

MELVIN CAMPBELL, assistant in the land department for the Sun Oil Company in Dallas, Tex., left last week, accompanied by his family, for a vacation in Yellowstone National Park and other points west.

J. T. IRVINE has been made manager of sales promotion and advertising for the Shell Petroleum Corporation, St. Louis, Mo. He formerly was assistant manager. He succeeds L. H. SPINER, who resigned recently.

DR. G. S. HUME, of the Geological Society of Canada, will spend the summer surveying further possibilities in the North Turner Valley field, having completed a report of last year's survey of the southern section.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Group 3 Motor Fuel Market Hesitates Notwithstanding Favorable Signs

By C. O. WILLSON

Notwithstanding lively consumption and smashing reductions in the country's stocks, hesitation characterized the Group 3 gasoline market this week. Instead of looking hopefully for higher tankcar prices, refiners seemed to feel they would be doing well if they kept current quotations from drifting lower.

Louisiana Seeking Outlets

Louisiana was pointed to as probably affording the major reason for failure of gasoline to acquire the buoyancy expected of it at this season. Output from increased refinery operations in that territory needed prompt movement. It was reported to have been finding outlets, chiefly through brokers, in Illinois, Indiana, Kentucky, and to a lesser extent in other regions. This affected the demand for Oklahoma's product just enough to impart a touch of uneasiness to the market.

Uncertainty as to whether major companies, which have been buying gasoline in substantial volume from independents, would continue such purchases through August had a dampening effect, too. Nobody offered any reason for feeling this course might be abandoned; but it was agreed that if it should be, the market would have difficulty keeping its feet.

A few refiners in Texas and other parts of the Southwest who had built up stocks of gasoline in the expectation of getting better prices as the tourist season advanced have been liquidating them since it became apparent that quotations were not going to rise in accordance with the regular summer formula. It was believed this week that most of this material had been disposed of, and stocks generally were reported to be well within requirements. No price concessions of importance have been made in order to move inventories in the Mid-Continent, it was said, though there were the usual scattered cases of small refiners offering minor bargains to get money for the monthly crude oil bill.

Low-octane gasoline continued in brisk demand. In fact, such softness as has appeared in motor fuel was reported to be more pronounced in the higher brackets. This was accounted for in large measure by the marked increase in rural requirement for third-grade gasoline, which is taking the place of kerosene and light distillates formerly used almost entirely for tractor purposes.

Demoralization of retail markets in Oklahoma appeared to be spreading. Service station operators who tried to preserve their posted prices have found themselves facing the necessity of meeting the quotations of competitors or accepting heavy losses in gallonage. In Tulsa there was no trouble in buying regular-grade gasoline for 14 cents and premium-grade for 15, though in most cases the pumps were marked 19 cents and 21 cents respectively.

Natural gasoline had settled down, following its recent sharp rise. Prices were steady, but they gave no indication of further climbing for a little while. The stream of small orders which, flowing into the market at one time, sent quotations jumping to the highest levels recorded since last January, had lessened appreciably. Lack of life in the refinery product had its unfavorable influence on the naturals.

Wax a Strong Point

Wax presented a point of conspicuous strength. Relatively few Mid-Continent refiners make this product, and there was ready demand for all of it available. About 75 per cent of the output goes oversea. Neutrals and bright stocks continued to flounder, and according to common report perfunctory attention was being paid to published prices. Heating oils were having smooth sailing, with some of the light grades hard to get. Softness of kerosene, noticeable last week, was more pronounced. Every gallon of U.G.I. gas oil had a place to go. Heavy industrial fuel was increasingly weak.

Refined Oil Market Barometer

The start of the largest gasoline consuming month finds prices at best only holding their own. Weakness in third-grade gasoline is reported at several points and efforts to advance the regular and premium grades have not been successful. Natural gasolines continue strong.

MID-CONTINENT. Refinery gasolines need more active market. Natural gasoline strong. Good movement of gas oils and distillates.

EAST COAST. Strength in fuel oils, particularly overhead distillates and gas oils, features market.

GULF COAST. Demand for practically all products less active. No general changes in prices.

CALIFORNIA. Slight improvement noted in gasoline situation. Heavy oil outlets needed.

PENNSYLVANIA. Efforts to place all grades of lubricants on better basis continue with some success. Better demand for all fuels.

CHICAGO. Fall buying of distillates features markets. All grades of gasoline freely offered.

Burning Oils Holding Attention With Anxiety on Fuel Stocks

By H. STANLEY NORMAN

NEW YORK, Aug. 1.—While the motor fuel market in the northeastern part of the country struggled to resist the depressing influence of an untimely rainy spell in the middle of July, one of the summer's best consuming months, burning oil prices continued to point upward and thereby held a bulk of trading interest. The attention currently devoted to fuel oil is due not only to an upturn in market strength but also because fuel oil stocks have mounted consistently during the summer and the industry at large has been anxious over developments.

Current strength in the light fuel oils is due almost entirely to the attitude of Gulf Coast refiners who are quoting 3½ cents per gallon for No. 2 fuel oil and 4 cents per gallon for kerosene. The heavy fuel oil market is generally unchanged along the north Atlantic Coast although reports have been received that stocks are heavy on the Gulf and that firm bids of 60 to 65 cents per barrel are sufficient to attract suppliers.

The gasoline market resistance struggle was weighted almost exclusively on the tankcar and tank-wagon markets. Retail price cutting in New York and at key points in the New England section is widespread and offers no immediate prospects of being corrected. As many as 7 gallons of regular gasoline for $1 are being offered in the most seriously infected sections of Brooklyn, but the general scale for Manhattan, Queens, Bronx and parts of Brooklyn is 6 gallons for 98 cents, plus 2 per cent New York City sales tax. Price cutting is also reported from Syracuse, N. Y., Providence, R. I., and Boston, Mass. Marketing conditions have been improved in southern Connecticut and in Westchester and Putnam counties, New York, during the past 10 days, but occasional returns to the metropolitan price scales are reported from those suburban districts.

The demoralized marketing practices existing in northern and eastern New Jersey up to the effective date of the Fair Trade Practice Act for motor fuel dealers and the State Price Maintenance Law have been curbed almost to the exclusion of disparity and "dog-eat-dog" competition. Prices based on the tankcar market with what the State of New Jersey has ordered as a reasonable mark-up, backed by the price maintenance contracts existing between suppliers and dealers, are reasonably well observed by practically all marketers.

Competitive conditions existing in New York City, including Brooklyn, Bronx and Queens are largely the result of under canopy "chiseling" practiced to stimulate gallonage business immediately before and during the 10 days of almost uninterrupted rains which cut deeply into demand. Reduction of motorists' gasoline demand during the middle two weeks of July to almost mid-winter levels is expected to take a serious chunk out of the anticipated requirements for that month. Refinery statistics for the week ended July 30 and for that ending August 6 must be awaited to fully appraise the loss of business. Week-end drivers probably will take up the slack in their portion of the gallonage loss in July, but thousands of vacationists held at their homes during that particular two weeks period would have used gasoline that can not possibly figure in this summer's business.

Tankcar prices for 65-octane plus gasoline are unchanged in New York at 6¾ to 7 cents per gallon. Deliveries in barges can be obtained for a minimum of 6½ cents, but a majority ask from 6⅝ to 6⅞ cents per gallon. Spot markets have been inactive for the past two or three weeks and orders against contracts tapered off during the rainy spell but are again back to normal.

Inquiries by exporters on the Gulf Coast for motor fuel, kerosene, gas oil and industrial fuel oil are reported extremely quiet for this season of the year. The impression has gained circulation that jealousy between the large producing states in the southwest is heading into another crude oil price crisis and it is believed probable that exporters are remaining aloof from the market to watch developments along this front. Inquiries in New York last week indicated that an easier tone has already developed in the crude oil producing districts. Inquiries were made in New York on the distillation characteristics, gravities, field prices and transportation charges to the Gulf Coast on various crudes from Jennings, La., the K.M.A. district in North Texas and on West Texas sour crudes. The recent absence of such interest up to the middle of last week indicated that unknown quantities of crudes from those areas are either being offered or are thought to be available to the export market. Since they are being offered or are being made available to the exporters the line of logic indicates that production must be comfortably in excess of the domestic market's absorption ability.

More optimistic market observers believe the state regulatory bodies of Texas, Oklahoma, Kansas and New Mexico have displayed abundantly their willingness and ability to meet emergency conditions in the producing districts. Those of the belief denying that production will be permitted to go above reasonably sound limits and thus undermine the price structure scoff at theories that prospective customers are staying out of the refined products market for that reason.

Reports are current that the U.S.S.R. is again offering larger quantities of fuel oil in the continental market and that this source of supply has captured the immediate business from French naval authorities. There exists the further impression that Rumanian refiners are or should be about ready to make another of their spasmodic bids for European motor fuel business placed in open market competition. There was a slight drop in June exports of crude of 374,199 bbls., from 7,797,736 bbls. in May to 7,423,537 bbls. in June, but it was considered unimportant and without special significance. The margin was no greater range of fluctuation than registered in preceding months of the year. Gasoline exports also declined slightly from 3,869,120 bbls. in May to 3,834,472 bbls. in June, a loss of 34,648 bbls.

Evidence is accumulating, however, that the Mexican government is now supplying expropriated oil to some of the markets.

Improvement was registered last week in the Western Pennsylvania lubricating oil market. Orders from jobbers and exporters were reported showing the first signs of recovery since the slump set in last May. A few isolated instances of price advances on bright stock were reported, but in general the market remained unchanged in level. Curtailment of lube plant operation several weeks ago is just now catching up with the stocks amassed during the period that runs were held at levels higher than plant shipments justified. Inter-refinery buying continues at prices approximately the same as those quoted to jobbers. Normally, inter-refinery sales

(Continued on Page 106)

A. P. I. Weekly Refinery Statistics

Week Ending July 30, 1938

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	466,000	21,313,000	13,331,000
Appalachian	88.4	105,000	3,165,000	1,108,000
Indiana, Illinois, and Kentucky	92.4	437,000	12,657,000	9,361,000
Oklahoma, Kansas, and Missouri	84.7	285,000	6,548,000	4,252,000
Inland Texas	56.6	148,000	2,087,000	1,876,000
Texas Gulf	95.7	772,000	9,945,000	12,580,000
Louisiana Gulf	96.6	130,000	2,444,000	3,410,000
North Louisiana and Arkansas	63.7	39,000	525,000	826,000
Rocky Mountains	69.7	44,000	1,633,000	881,000
California	90.9	504,000	12,667,000	93,739,000
Total reported	89.0	2,930,000	72,984,000	141,364,000
Estimated unreported	.....	310,000	3,880,000	2,930,000
*Estimated total	.....	3,240,000	76,864,000	144,294,000
*Estimated total, previous week	.....	3,180,000	76,366,000	143,041,000
*July 31, 1937	.....	3,425,000	70,872,000	108,209,000

*Bureau of Mines, currently estimated.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATES)

Week ending July 16, 1938	289,312,000 barrels
Week ending July 9, 1938	290,469,000 barrels
Week ending July 17, 1937	307,139,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of August 2, 1938

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wag.	Dlr.	Inc. tax	tank-wag.
Chicago, Ill.	15.6	13.6	4.0	10.5
Decatur	15.6	14.1	4.0	10.5
Joliet	15.6	14.1	4.0	10.5
Peoria	15.6	14.1	4.0	10.5
Quincy	15.4	13.9	4.0	10.3
Davenport, Ia.	15.6	14.1	4.0	‡10.5
Des Moines	15.4	13.9	4.0	‡10.3
Mason City	15.8	14.3	4.0	‡10.7
Duluth, Minn.	17.4	15.9	5.0	11.3
Mankato	17.0	15.5	5.0	10.9
Minneapolis	17.0	15.5	5.0	10.9
LaCrosse, Wis.	17.0	15.5	5.0	10.9
Green Bay	17.4	15.9	5.0	11.3
Milwaukee	16.8	15.3	5.0	10.7
Detroit, Mich.	14.3	12.8	4.0	9.0
Grand Rapids	14.8	13.8	4.0	9.
Saginaw	16.3	14.8	4.0	9.3
Evansville, Ind.	17.1	15.6	5.0	†11.0
Indianapolis	17.3	15.8	5.0	†11.2
South Bend	17.6	16.1	5.0	†11.5
Fargo, N. Dak.	17.2	15.7	4.0	12.1
Minot	18.5	17.0	4.0	13.4
Huron, S. Dak.	17.5	16.0	5.0	11.4
Kans. City, Mo.*	14.9	13.4	4.0	9.8
St. Louis*	15.2	13.7	4.0	10.1
St. Joseph*	14.9	13.4	4.0	9.8
Wichita, Kans.	14.4	10.6	4.0	7.8

***State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.**

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective Dec. 7, 1936, f.o.b. Chicago tank-wagon prices: Range oil, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.3 cents. Stanolex No. 1, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7 cents. Stanolex furnace oil, 1-149 gallons, 7.8 cents; 150 gallons and over 7 cents; Stanolex A, 1-399 gallons, 5.75 cents; 400 gallons and over, 4.75 cents. Stanolex B, 1-799 gallons, 5.75 cents; 800 gallons and over, 4.75 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Tank-wag. dlr.	Tank-car con'r.	Inc. tax	kero. tank-wag.
Atl'tic City, N. J.	13.4	11.4	4.0	8.0
Newark	13.4	11.4	4.0	8.0
Annapolis, Md.	14.85	13.35	5.0	9.5
Baltimore	14.25	12.75	5.0	9.0
Cumberland	16.65	14.15	5.0	10.0
Wash'g'n, D. C.	12.5	11.0	3.0	9.5
Danville, Va.	16.95	14.45	6.0	12.9
Norfolk	15.75	13.25	6.0	11.5
Petersburg	16.05	13.55	6.0	11.7
Richmond	16.05	13.55	6.0	11.7
Roanoke	17.25	14.75	6.0	12.9
Charles'n, W. V.	17.05	14.55	6.0	12.6
Parkersburg	15.35	13.85	6.0	11.2
Wheeling	16.25	14.85	6.0	12.2
Charlotte, N. C.	18.65	16.15	7.0	12.1
Hickory	19.15	16.65	7.0	12.5
Mt Airy	18.95	16.45	7.0	12.3
Raleigh	18.25	15.75	7.0	11.6
Salisbury	18.75	16.25	7.0	12.2
Charleston, S. C.	17.25	14.75	7.0	10.6
Columbia	18.25	15.75	7.0	11.6
Spartanburg	18.95	16.45	7.0	12.4

Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective May 15, 1937, in North and South Carolina, West Virginia and Virginia (except Arlington and Fairfax counties): Commercial consumers taking deliveries of 50 gallons (W. Va., 100 gallons) or more at one time will be billed at posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons (W. Va., 100 gallons) will be billed at 4 cents per gallon over posted consumer tank-wagon price. Generally the posted consumer tank-wagon price will be the equivalent to the dealer price less .5 cent per gallon.

Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline			Kero.
	Tank-wag.	Net dlr.	Inc. tax	tank-wag.
Atlanta, Ga.	19.0	16.0	7.0	12.0
Augusta	19.5	16.5	7.0	11.5
Macon	21.0	18.5	7.0	12.0
Savannah	20.0	17.0	7.0	12.0
Birm'ham, Ala.	21.5	18.5	8.0	12.0
Mobile	22.0	19.0	9.0	9.5
Montgomery	21.5	19.5	9.0	13.0
Jackson, Miss.	19.5	16.5	7.0	10.0
Vicksburg	20.0	17.0	7.0	10.0
Jacks'ville, Fla.	20.5	17.5	8.0	8.0
Miami	21.0	18.0	8.0	11.0
Pensacola	20.5	17.5	9.0	12.0
Tampa	19.0	16.0	8.0	10.5
Lexington, Ky.	19.5	16.5	6.0	10.5
Covington	18.0	15.0	6.0	10.5
Louisville	19.0	16.0	6.0	10.0
Paducah	16.5	13.5	6.0	10.0

***Includes 1-cent state tax.**

Price basis to tank-wagon consumers: Effective January 4, 1937, 3 cents per gallon below tank-wagon price. Effective June 4, 1938, 2 cents per gallon discount eliminated from all kerosene markets in Mississippi, Alabama, Georgia, and Florida, markets being reduced correspondingly to a net basis.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham Ala., has a city gasoline tax of 1 cent per gallon; Pensacola has a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline		Kero.
	Dealer	Inc. tax	kero. tank-wag.
Denver, Colo.	15.5	5.0	11.5
Grand Junction	19.0	5.0	15.0
Pueblo	16.5	5.0	10.5
Casper, Wyo.	17.0	5.0	11.5
Cheyenne	13.0	5.0	13.0
Butte, Mont.	19.5	6.0	15.5
Billings	19.5	6.0	13.0
Helena	20.0	6.0	15.5
Great Falls	18.0	6.0	15.5
Salt Lake City, Utah	18.0	5.0	16.0
Twin Falls, Ida.	21.0	6.0	18.0
Boise	21.5	6.0	18.0
Albuquerque, N. M.	17.5	*6.5	12.0

***Includes city tax of one-half cent.**

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline			Kero.
	Tank-wag. con'r.	Dl-vided dlr.	Inc. tax	kero. tank-wag.
Ohio points	16.5	15.5	5.0	*13.0

***Includes state tax of 1 cent.**

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline			Kero.
	Tank-wag.	Tank-car con'r.	Inc. tax	kero. tank-wag.
Albany, N. Y	14.5	12.5	5.0	9.0
*Met. N. Y.:				
M'htt'n, Br'nx	14.0	12.5	5.0	8.75
Staten Island	14.0	12.5	5.0	8.75
Q'ns & Bklyn.	14.0	12.5	5.0	8.75
Buffalo	14.5	13.4	5.0	7.5
Rochester	15.3	13.5	5.0	8.5
Syracuse	14.5	13.1	5.0	9.0
Boston, Mass.	13.0	12.0	4.0	8.5
Portland, Me.	15.0	13.0	5.0	8.75
Manch'ter, N.H.	15.0	13.6	5.0	9.0
Burlington, Vt.	15.4	13.4	5.0	9.5

***Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.**

Price basis to undivided dealer: Posted dealer tank-wagon price less .5 cent. Price basis to commercial consumer: Effective Nov. 15, 1936, monthly purchases of 25,000 gallons and over, consumer tankcar prices at delivery point plus .5 cent per gallon; monthly purchases of 5,000 to 25,000 gallons, undivided dealer price at delivery point; monthly purchases under 5,000 gallons, pay divided dealer tank-wagon prices at delivery point.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline			Kero.
	Tank-wag.	Serv. sta.	Inc. tax	kero. tank-wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18.5	19.5	4.0	12.5
Phoenix, Ariz.	21.5	22.5	6.0	*17.5
Reno, Nev.	20.5	21.5	5.0	13.5
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle, Wash.	20.0	21.0	6.0	13.5
Spokane	23.0	24.0	6.0	16.5
Tacoma	20.0	21.0	6.0	13.5

***Includes 5-cent state tax.**

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline			Kero.
	Tank wag.	Dlr.	Inc. tax	kero. tank-wag.
Omaha	18.0	16.5	6.0	10.8
McCook	17.5	16.5	6.0	10.0
Norfolk	18.4	16.9	6.0	11.2
North Platte	18.4	15.4	6.0	11.0
Scotts Bluff	19.5	15.0	6.0	12.3

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective Jan. 1, 1935.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Tank-wag. dlr.	Tank-car con'r.	Inc. tax	kero. tank-wag.
N. Oleans, La.	19.75	17.25	*10.0	†12.0
Baton Rouge	17.75	15.25	8.0	12.0
Alexandria	17.75	15.25	8.0	10.5
Lafayette	18.0	15.5	8.0	12.5
Lake Charles	17.75	15.25	8.0	12.5
Shreveport	16.5	14.0	8.0	9.5
Kn'ville, Tenn.	21.0	18.5	8.0	14.0
Memphis	19.0	16.5	8.0	12.0
Chattanooga	20.5	18.0	8.0	13.5
Nashville	20.0	17.5	8.0	10.5
Bristol	21.25	18.75	8.0	14.5

***Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax.**

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one delivery takes posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon.

Louisiana kerosene prices include 1-cent state tax.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline			Kero
	Tank-wag. dlr.	Tank-car con'r.	Inc. tax	kero. tank-wag.
Philadelphia, Pa.	13.75	12.25	5.0	10.0
Pittsburgh	15.0	13.0	5.0	10.5
Allentown	14.25	12.75	5.0	10.5
Erie	14.5	13.0	5.0	10.0
Scranton	14.5	13.0	5.0	10.5
Altoona	15.0	13.0	5.0	10.5
Dover, Del.	13.5	....	5.0	10.5
Wilmington	12.5	....	5.0	9.75
Springf'd, Mass.	13.5	....	4.0	8.0
Worcester	13.0	....	4.0	8.5
Hartford, Conn	13.6	....	4.0	7.0
New Haven	13.5	....	4.0	7.0
Providence, R. I.	13.0	....	4.0	8.0

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon. Price basis to commercial consumers in Pennsylvania and Delaware, effective March 11, 1937: Consumers under contract using 100,000 gallons or more per year full compartment hose deliveries, tankcar plus .5 cent. Consumers under contract using less than 100,000 gallons per year compartment hose deliveries, undivided dealer price. Consumers under contract less than full compartment delivery, consumers not under contract, less than full compartment delivery, and consumers not under contract full compartment delivery, divided dealer price. Less than 25 gallons, tank-wagon delivery, 4 cents per gallon above undivided dealer price.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline		Kero.
	Dealer	Inc. tax	kero. tank-wag.
Muskogee, Okla.	14.5	5.0	7.0
Oklahoma City	13.5	5.0	7.0
Tulsa	14.0	5.0	7.0
Ft. Smith, Ark.	14.75	5.0	7.5
Little Rock	17.25	7.5	8.0
Texarkana	14.0	5.0	8.0

Texas

	Gasoline			Kero.
	Tank-wag.	Serv. sta.	Inc. tax	kero. tank-wag.
Dallas, Tex.	14.0	18.0	5.0	8.0
Fort Worth	14.0	18.0	5.0	8.0
Houston	14.5	19.0	5.0	8.0
San Antonio	13.5	17.5	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

***Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.**

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Canada*

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank-wag.	Inc. tax	Kero. tank-wag.
Halifax, N. S.	24.5	10.0	18.5
St. John, N. B.	24.5	10.0	18.5
Montreal, Que.	21.0	6.0	17.5
Toronto, Ont.	22.0	6.0	17.0
Hamilton, Ont.	22.0	6.0	17.0
Winnipeg, Man.	27.5	7.0	20.7
Brandon, Man.	28.1	7.0	22.3
Regina, Sask.	26.0	7.0	22.0
Saskatoon, Sask.	28.3	7.0	24.9
Edmonton, Alta.	26.5	7.0	21.5
Calgary, Alta	23.5	7.0	19.0
Vancouver, B. C.	23.0	7.0	23.0

***Imperial gallon used in Canada.**

Divided dealers pay tank-wagon price. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Retail Price Changes

Standard Oil Co. of Indiana effective July 22 reduced gasoline tank-wagon 1 cent and posted dealer one-half cent at Detroit, Mich.

Continental Oil Co. effective June 28 advanced kerosene tank-wagon price 1 cent at Tulsa following a reduction of 1 cent per gallon effective June 16; effective July 12, house brand gasoline was advanced 1½ cents per gallon at Denver; effective July 12, house brand gasoline was advanced 2 cents at Cheyenne, Wyo., and on July 15 was reduced 2 cents.

Jumping Pound Structure

It is expected that several tests will be started this summer on the Jumping Pound structure in the foothills 24 miles west of Calgary. Acreage has been taken up by the McDougall-Segur Exploration Co., the Brown-Moyer-Brown interests of Calgary, J. C. Dallas and associates, and Duchess Oils, Ltd. Most of the holdings are in Townships 24 and 25, Ranges 4 and 5, and were secured from surface right owners who homesteaded before 1887. Tests drilled in 1914 by Dome Oil Co. in LSD 14, section 12-25-5w5, and Purity Oils in LSD 9, section 34-25-5w5, encountered shows of gas and oil and later deep tests by Imperial Oil, Ltd., encountered numerous gas shows with oil at 705 and 1,068 feet. Imperial Oil, Ltd., later drilled a few shallow tests of these stray oil sands but failed to develop a field.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of August 2, 1938

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 oct. and below	.04¾	.04⅞
63-66 octane	.05	.05⅛
67-69 octane	.05¼	.05⅜
70-72 octane (regular)	.05½	.05⅝
60-62 400 grades:		
62 oct. and below	.04¾	.04⅞
63-66 octane	.05	.05⅛
67-69 octane	.05¼	.05⅜
70-72 octane (regular)	.05½	.05⅝
64-66 375	.04⅞	.05
68-70 360	.05⅛	.05¼

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04¾	.04⅞
63-66 octane	.05	.05⅛
67-69 octane	.05¼	.05⅜
70-72 octane (regular)	.05½	.05⅝
60-62 400	.04¾	.04⅞
64-66 375	.04⅞	.05

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
62 octane and below		.04¾
63-66 octane		.05⅛
67-69 octane	.05¼	.05⅜
70-72 octane (regular)		.05¾

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
62 octane and below		.05
67-69 octane		.05½

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04¾	.04⅞
63-66 octane	.05	.05⅛
67-69 octane	.05¼	.05⅜
70-72 octane (regular)	.05½	.05⅝
60-62 400 grades:		
62 octane and below	.04¾	.04⅞
63-66 octane	.05	.05⅛
67-69 octane	.05¼	.05⅜
70-72 octane (regular)	.05½	.05⅝
64-66 375	.04¾	.05
68-70 360	.05	.05¼

PENNSYLVANIA (Inland refineries)—

58-60 U. S. Motor:		
Below 60 octane	.05	.05⅛
65 octane	.06¾	.07
68-70 octane	.07¼	.07½

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.07	.08¼
58-60 400, 65 oct. and higher	.08	.09

EAST COAST (domestic)—

U. S. Motor, 60-64.9 octane:		
New York (Bayonne)	.06¼	.06½
Philadelphia	.06¼	.06½
Boston	.06½	.06¾
Baltimore	.06½	.06¾
Charleston, S. C.	.07	.07¼
U. S. Motor, 65 and above:		
*New York (Bayonne)	.06¾	.07
Philadelphia	.06¾	.07
Boston	.06¾	.07
Baltimore	.06¾	.07¼
Charleston, S. C.	.07¼	.07½

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05	.05⅛
60-64.9	.05⅛	.05¼
65 octane and higher	.05⅝	.05½
68-70	.05¾	.06

Naphtha

PENNSYLVANIA (Inland refineries)—

52-56 450 (blending)	.05¼	.05⅜

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.03
Grade 18-55	.03½	.03⅝

NORTH TEXAS—

Grade 26-70		.03
Grade 18-55	.03½	.03⅝

CALIFORNIA—

75-85 375-390	.06¼	.07

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70		.03⅜

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110 flash, 540-550 e.p.	.04	.04¼
41-43 gr., 300-520 l.b.p., 110-125 flash, 500-520 e.p.	.04¼	.04½
46-48 gr., 210-230 l.b.p., 480 max., e.p.	.04⅝	.04⅞

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.04	.04⅛
42-44	.04¼	.04⅜

NORTH TEXAS—

41-43	.04	.04⅛

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.04⅛	.04⅜

ARKANSAS (Ark. and N. La. del.)—

41-43	.04½	.04⅝

PENNSYLVANIA (Inland refineries)—

45		.05
46		.05⅛
47		.05¼

CHICAGO (Based on Group 3)—

41-43	.04¼	.04⅜
42-44	.04½	.04⅝

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.05	.06

NEW YORK (Bayonne, N. J.)—

41-43	.04⅝	.04¾

***GULF COAST (domestic)—**

41-43	.03⅞	.04

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03⅞	.04⅛
No. 1 prime white, 38-42	.03⅞	.04
No. 1 straw, 38-40	.03⅝	.03⅞
No. 2 straw, 32-36	.03½	.03¾
No. 2 dark, 32-36	.03⅜	.03½
No. 3 zero to 15, 28-32	.03¼	.03⅜
No. 3, 15 and above, 28-32	.02⅞	.03

NORTH TEXAS—

No. 1 prime white, 38-42	.03⅞	.04
No. 1 straw, 38-40	.03⅝	.03¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03¼	.03½

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36		.03⅝

CHICAGO (Based on Group 3)—

Range oil	.03⅞	.04⅛
No. 1 prime white, 38-40	.03¾	.04
No. 1 straw, 38-40	.03⅝	.03⅞
No. 2 straw, 32-36	.03½	.03¾
No. 2 dark, 32-36	.03¼	.03½
No. 3, zero to 15, 28-32	.03¼	.03⅜
No. 3, 15 and above, 28-32	.02⅞	.03

NEW YORK (Bayonne, N. J.)—

*No. 1	.04½	.04⅝
*No. 2		.04
*No. 4		.04

*Barge deliveries one-eighth to one-fourth cent under above tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal.; fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅞	.03
No. 4, low cold test, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.90
No. 5, low cold test, 18-22	.70	.75
Below 18 fuel oil, industrial	.50	.60

NORTH TEXAS—

U.G.I. gas oil	.02⅞	.03
No. 4, low cold test, 24-28	1.00	1.10
No. 5, low cold test, 18-22	.70	.75
Below 18 fuel oil, industrial	.50	.60

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial		.80

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02¾	.02⅞
No. 4, low cold test, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.95
No. 5, low cold test, 18-22	.70	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low cold test, 16-10	.60	.70
No. 6, 15 and above, 10-16	.35	.45

PENNSYLVANIA (Inland refineries)—

36-40	.03⅝	.03⅞

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.20	1.40
24 plus diesel, per bbl.	1.10	1.40
24 plus diesel (bunkers)	1.25	1.55
12-16 (bunkers at tidewater)	.80	.90
10-16 (cargo lots)	.65	.85
12-17 (tankcars)	.60	.90
10-17 (high sulfur)	.55	.85
San Joaquin Valley:		
10-18 (tankcars)	.60	.80
24 plus diesel, per bbl.	1.20	1.50
San Francisco:		
24 plus diesel, per bbl.	1.45	1.55
24 plus diesel (bunkers)	1.50	1.55
10-16 (bunkers)		.95

GULF COAST—

No. 2 fuel		.03½
43-47 diesel		.03½
48-52 diesel	.03½	.03⅝
53-57 diesel	.03⅝	.03¾
Bunkers (bulk cargoes)	.65	.70
Bunker C (bunkers)		.75

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04¼
28-30 diesel (lighterage 6¼c per bbl.)		1.75
28-30 diesel (tankers)	.04¼	.04½
Bunker C (to ocean-going ships in N. Y. harbor)		.95
Industrial fuel (tankcars)	.03¾	.04

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

190-200 D, 15-25		.19
150-160 D, 0-10	.14	.16
150-160 D, 15-25	.13½	.15½
150-160 E, 15-25	.13	.15
100-110 D, 0-10		.14½
Steam refined:		
631 green (treated)		.12½
600 dark green (untreated)	.05	.05½

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour test	.15	.15½
15 pour test	.14	.14½
20 pour test	.13	.13½
25 pour test	.12	.12½
Steam refined:		
600	.08	.08½
650	.10	.10½
600 Pennsylvania flash	.10½	.11
630 flash	.13½	.14
600 Warren E filtered	.12½	.13

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:		
150-3		.09
180-3		.10
180-4		.09½
200-3		.10½
200-4		.10
250-3		.11½
250-4		.11
280-3		.12½
280-4		.12
300-6½		.13
400-3½		.14
100-2½ paraffin oil		.06
15-20 Cold Test:		
200-3		.10
200-4		.09½
250-3		.11
250-4		.10½
280-3		.12
280-4		.12½

GULF COAST—

Pale Oils:		
200-3	.07	.07¼
300-3	.07½	.07¾
500-3½	.08½	.08¾
750-3½	.08⅝	.09¼
1,200-3½	.09½	.09¾
1,500-4	.09¾	.10
Red Oils:		
200-5-6	.07¼	.07½
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)—

Pale Oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red Oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° color, 400-405 flash:		
Zero pour test	.13½	.14
10 pour test	.12½	.13
15 pour test	.12	.12½
25 pour test	.11	.11½
180 vis. at 70° F., 3 color:		
25 pour test	.13	.13½
200 vis. at 70° F., 3 color:		
Zero pour test	.14½	.15
10 pour test	.13½	.14
15 pour test	.13	.13½
25 pour test	.12	.12½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02¼	.02⅛

PENNSYLVANIA (Inland refineries)—

122-124 (a.m.p.) w.c. scale	.0220	.0225

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0420
125-127 (a.m.p.) wax		.0435
128-130 (a.m.p.) wax		.0445
130-132 (a.m.p.) wax		.0455
133-135 (a.m.p.) wax		.0500
135-137 (a.m.p.) wax		.0515
124-126 (a.m.p.) w.s.		.0185
124-126 (a.m.p.) y.s.		.0185
Petrolatum in barrels, carload lots:		
Dark green	.02	.02⅛
Amber	.02⅜	.02½
Extra amber	.02⅝	.02¾
Lily white	.05½	.05¼
Snow white	.06⅛	.06¼
Cream	.04⅛	.04¼

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.05
60-62 400	.05	.05⅛
61-63 390	.05⅛	.05¼
64-66 375		.05½

LOS ANGELES—

U. S. Motor grades:		
55-65 octane		.05
65-69 octane		.05¼
Above 69 octane		.05½

KEROSENE

GULF COAST—

41-43 prime white	.03⅞	.04
41-43 water white	.03⅞	.04

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s. in bbls.)—

Cylinder Stocks:		
600 Warren E	.15	.15½
600 S.R. unfiltered	.16	.16½
630 S.R. unfiltered	.17	.17½
600 flash, S.R.	.17	.17½
630 flash, S.R.	.20½	.21
Bright Stocks:		
8 color	.16¼	.16½

NEUTRAL OIL

200-3 color	.21½	.22
150-3 color	.19½	.20

PARAFFIN WAX

NEW YORK (prices per pound)—

123-126 a.m.p.		.0375
125-127 a.m.p.		.0387
128-130 a.m.p.		.0412
133-135 a.m.p.		.0437
135-137 a.m.p.		.0455
Crude Scale:		
124-126 w.s.	.0185	.0200
124-126 y.s.	.0185	.0200

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

(Effective January 28, 1937)

East Texas (May 22, 1937)*	$1.35
Van, Tex.†	1.10
Camp Hill, Tex.	1.27
Cass County, Tex.‡	1.25
Talco	.73
Altus and Tipton, Okla.§	1.20
Other fields (see gravity table).	

*All companies. †Humble Oil & Refining Co.; Pure Oil Co. ‡Texas Co. §Gulf Oil Co. Talco by Humble Oil & Refining Co.

North Louisiana and Arkansas

Smackover, all grades	$ .90
Tullos and Urania	1.02
El Dorado East field	.90
Union County, Ark.	.90
Ouachita County, Ark.	.90
Lisbon, La. (Dec. 13, 1937)*	98

*Caddo Crude Oil Purchasing Co.

Gulf Coast

(Effective January 28, 1937)

Choctaw and Darrow, La. See note below	
Clay Creek, Tex.	$1.00
Garden Island, La.	1.37
Cleveland, Tex.	1.27
Hardin, Tex.	1.15
Lafitte, La.	1.24
Livingston, Tex.	1.27
Welsh, La.	.98
Tepetate (La.) (Jan. 28, 1937)	1.24

Duval, Jim Hogg, Webb and Zapata counties, Texas, and Heyser and Placedo fields take Mirando gravity prices. Jennings, La., 5 cents lower than Gulf Coast prices on each degree. Segno, Texas, takes Gulf Refining Co.'s Gulf Coast prices. Choctaw and Darrow, Louisiana, posted for first time by Standard Oil Co. of Louisiana, start below 21 degrees at 90 cents, with 3-cent differential up to 25 gravity, then 2-cent differential up to 40 and above, $1.36. Effective October 1, 1937, Stanolind Oil & Gas Co. in Evangeline, La., pays 92 cents for below 20 gravity, adding 2 cents for each degree upward to 40 and over, at $1.34.

Rocky Mountain States

(Effective January 28, 1937)

Iles, Colo., light*	$1.18
Iles, Colo., heavy*	1.12
Greybull, Wyo.*	1.30
Torchlight, Wyo.*	1.30
Grass Creek, Wyo., light (July 8, 1938)*†	1.05
Grass Creek, Wyo., heavy (May 1, 1938)*	.50
Hamilton Dome, Wyo. (May 1, 1938)*	.45
Elk Basin, Wyo., light (July 8, 1938)*†	1.05
Frannie, Wyo., heavy*	.62
Frannie, Wyo., light (May 1, 1938)*	.65
Hogback, N. M. (Jan. 28, 1937)*	1.33
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†‡	1.23
Rock Creek, Wyo.†	1.20½
Lea County, N. M. (see West Texas gravity table).	
Artesia, N. M. (Jan. 2, 1937)‡	.90
Maljamar, N. M. (Jan. 28,1937)‡	.90
Canon City and Florence, Colo.	1.10
Lance Creek, Wyo.*	.97
Lander, Wyo. (Jan. 1, 1938)§	.51½
Sunburst, Mont. (Nov. 16, 1937)†	.90
Cat Creek, Mont. (Jan. 1, 1938)‡	$1.30
Garland, Wyo. (Jan. 1, 1937)†	.50

*Stanolind Oil & Gas Co. and Ohio Oil Co. †Ohio Oil Co. ‡Continental Oil Co., Texas Co. (April 1, 1938). §Hudson Oil Co.

Middle Western States

OHIO OIL CO.
(Effective January 28, 1937)

Lima	$1.00
Illinois	1.35
Princeton, Ind.	1.35
Midland, Mich. (Jan. 5, 1938)*	1.12
West Branch, Mich. (Dec. 29, 1937)†	.80
Buckeye (Jan. 8, 1938)	1.09¼
Arenac, Mich. (Dec. 29, 1937)†	.80
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River (July 1, 1938)	1.32
Kentucky River (July 1, 1939)	1.40
Western Kentucky (June 22, 1938)	1.90

*Posted by Pure Oil Co.
†McClanahan P. L. and Simrall.
Midland, Mich., price posted by Simrall Corp. and Pure Oil Co. includes Greendale, Porter, Beaverton, Crystal and equal grades. West Branch and Arenac by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Buckeye posted by Simrall Corp. and Pure Oil Co.

West Texas

See gravity table.

Pecos County*	$ .91
Pecos shallow†	.81

*Shell Petroleum Corp., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Petroleum Corp.

Eastern States

TIDE WATER ASSOCIATED OIL CO. and NEW YORK TRANSIT CO.
(Effective June 13, 1938)

Bradford, Pa.	$1.80
Allegany, N. Y.	1.80

SOUTH PENN OIL CO.
(Effective June 13, 1938)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	$1.80
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	1.46
Pennsylvania Grade Oil in Eureka Pipe Line lines	1.40
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.30
Corning Grade Oil in Buckeye Pipe Line Co., line (June 16, 1938)	1.17

PENNZOIL CO.
(Effective June 13, 1938)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	$1.73
Includes Cochran, Franklin, Hamilton and Doolittle districts.	
Group B	1.72
Includes Tidioute district.	
Group C	1.71
Includes Turkey and Tidioute districts.	
Group D	1.70
Includes Bear Creek and Porkey districts.	
Group E	1.68
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	

PURE OIL CO.
(Effective June 13, 1938)

Cabin Creek, W. Va.	$1.40
Bradford Hollow, W. Va.	1.40
Kelly Creek, W. Va.	1.40

Southwest Texas

(Effective January 28, 1937)

Pettus	$1.37
Salt Flat, Darst Creek, Hilbig, Carroll, Clark, Zoboroski	1.09
Lytton Springs	1.12
Luling	1.00

Saxet and Taft take same gravity table as Gulf Coast.

Canada

Ontario (Sept. 9, 1933)*

Petrolia	$2.10
Oil Springs	2.17
TURNER VALLEY NAPHTHAS AND CRUDE OIL (January 5, 1938, by Imperial Oil, Ltd.)	
Clear naphtha and discolored naphtha, 65 gravity and higher	$2.14
Discolored naphtha and crude oil, 40-40.9 gravity	1.14
Increasing 2 cents for each degree gravity with top price for 64-64.9 gravity	1.62
These prices f.o.b. producers field tankage.	

*Imperial Oil, Ltd.

Crude Oil Price Changes

Stanolind Oil & Gas Co., effective July 20, posted prices for the first time in the East Hackberry and West Hackberry fields in Coastal Louisiana. Starting at below 21 gravity at 95 cents, 21-21.9 gravity is posted at 98 cents, and 3 cents is added for each degree up to and including 26-26.9 gravity at $1.13; then 2 cents is added for each degree up to and including 34 and above at $1.29. The announcement was made on July 28.

New York Market

(Continued from Page 103)

are consummated at approximately 2 cents per gallon below the jobber market. One refiner was reported to have raised bright stock prices a cent per gallon on the 25 pour test grade to 13 cents. Another was reported to have withdrawn offerings for remainder of July. Neutral oils were also slightly improved. Motor fuel prices were unchanged in the district with third-grade gasoline selling at 5 cents per gallon and regular unleaded material at 6½ to 7 cents.

Defeat of the proposed constitutional provision for earmarking at least 2 cents per gallon of the New York state tax on gasoline for highway construction and maintenance expenditure caused no concern in the oil trade here. It was generally conceded that the question was not a fit topic for discussion at the constitutional convention. Most oil men feared that the ultimate effect of such a provision in the constitution would be to increase the tax on motor fuel making the higher rate take up the slack created in general revenue by the anti-diversion amendment.

Bunker C fuel oil remained unchanged at New York terminals where a price of 95 cents per barrel is generally quoted. There is some price cutting on tank-wagon deliveries to shore plants, but this is not pronounced since much of this business is covered by contracts extending over a year. The same condition exists in light fuel oils, but the market for such is generally up in New York from an eighth to a quarter of a cent per gallon. Activity is increasing each week by contract distributors and early fall deliveries are being made currently under 1938-39 winter agreements.

Crude Prices by Gravities

	Oklahoma-Kansas	Oklahoma-Kansas	North and Central Texas	East Central Texas (Mexia district)	North Louisiana-Arkansas	Gray County, Texas	Hutchinson-Carson counties, Texas	Rodessa, Louisiana-Texas and Panola County, Texas	Conroe, Tomball, Raccoon Bend, (Deep) Saturna	Gulf Coast	Gulf Coast	Lea County, N. Mex. West Texas except Pecos County	Mirando district, Texas	Marion County, Texas	Refugio, Greta, Saxet, Taft, Texas	Anahuac, Flour Bluff, Dickson, Turtle Bay	White Castle, Louisiana	Iowa, Louisiana	Cayuga, Texas
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Bel. 18	....	....	....	....	....	....	....	....	....	$.95	....	....	....	....	....	....	....	$.90	....
18-18.9	....	....	....	....	....	....	....	....	....	.95	....	....	....	....	....	....	....	.92	....
19-19.9	....	....	....	....	....	....	....	....	....	.95	....	....	....	....	....	....	$.94	.94	....
20-20.9	....	....	....	....	....	....	....	....	....	.95	$.95	....	$.96	....	$1.01	....	.96	.96	....
21-21.9	....	....	....	....	....	....	....	....	....	.98	.98	....	.98	....	1.03	....	.98	.98	....
22-22.9	....	....	....	....	....	....	....	....	....	1.01	1.01	....	1.00	....	1.05	....	1.01	1.01	....
23-23.9	....	....	....	....	....	....	....	....	....	1.04	1.04	....	1.02	....	1.07	....	1.04	1.04	....
24-24.9	....	....	....	....	....	....	....	....	....	1.07	1.07	....	1.04	....	1.09	....	1.07	1.07	....
Bel. 25	....	$.98	....	....	$.90	....	....	$.93	....	....	....	....	....	$.90	....	....	....	....	$.88
25-25.9	....	1.00	....	....	.92	....	....	.95	....	1.10	1.10	$.78	1.06	.92	1.11	....	1.10	1.10	.90
26-26.9	....	1.02	....	....	.94	....	....	.97	....	1.13	1.13	.80	1.08	.94	1.13	....	1.13	1.13	.92
27-27.9	....	1.04	....	....	.96	....	....	.99	....	1.15	1.15	.82	1.10	.96	1.15	....	1.15	1.15	.94
28-28.9	....	1.06	....	....	.98	....	....	1.01	....	1.17	1.17	.84	1.12	.98	1.17	....	1.17	1.17	.96
Bel.29	$1.06	....	$.96	$1.03	....	....	....	....	$1 20	....	....	....	....	....	....	....	....	....	....
29-29.9	1.08	1.08	.98	1.05	1.00	....	....	1 03	1 22	1.19	1.19	.86	1.14	1.00	1.19	....	1.19	1 19	.98
30-30.9	1.10	1.10	1.00	1.07	1.02	....	....	1 05	1 24	1 21	1.21	.88	1.16	1.02	1.21	$1.16	1.21	1 21	1 00
31-31.9	1.12	1.12	1.02	1.09	1.04	....	....	1.07	1 26	1 23	1.23	.90	1.18	1 04	1.23	1.18	1.23	1 23	1.02
32-32.9	1.14	1.14	1.04	1.11	1.06	....	....	1 09	1 28	1 25	1.25	.92	1 20	1 06	1 25	1.20	1 25	1 25	1 04
33-33.9	1.16	1.16	1.06	1.13	1.08	....	....	1.11	1 30	1 27	1.27	.94	1 22	1 08	1 27	1.22	1.27	1 27	1 06
34-34.9	1.18	1.18	1.08	1.15	1.10	....	....	1.13	1 32	1 29	1.29	.96	1 24	1 10	1 29	1.24	1.29	1 29	1 08
Bel. 35	....	....	....	....	....	$.96	$ 91	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	1.20	1.20	1.10	1.17	1 12	.98	93	1 15	1 34	....	1.31	.98	1 26	1 12	1.31	1.26	1.29	1 29	....
36-36.9	1.22	1.22	1.12	1.19	1 14	1 00	.95	1.17	1.36	....	1.33	1.00	1 28	1 14	1.33	1.28	1.29	1 29	....
37-37.9	1.24	1.24	1.14	1.21	1.16	1 02	.97	1.19	1 38	....	1.35	1.02	1.30	1.16	1.35	1.30	1.29	1.29	....
38-38.9	1 26	1.26	1.16	1.23	1.18	1.04	.99	1.21	1.40	....	1.37	1.04	1.32	1.18	1.37	1.32	1.29	1.29	....
39-39.9	1.28	1.28	1.18	1.25	1.20	1.06	1 01	1.23	1 42	....	1.39	1.06	1.34	1.20	1.39	1.34	1.29	1.29	....
40,over	1.30	1.30	1.20	1.27	1.22	1.08	1.03	1.25	1 44	....	1.41	1.08	1.36	1.22	1.41	1.36	1.29	1.29	....

Effective July 8, 1938, Standard Oil Co. of Louisiana posted prices in Buckner, Magnolia, and Village pools in Columbia County, Arkansas, as follows: Below 25 degrees 83 cents; 25-25.9 degrees 85 cents; with 2 cents added for each degree upward to and including 40 degrees and above at $1.15.

Column 1—Companies posting are Barnsdall, Bell, Champlin, Continental, Cushing, Derby, Bay, Eason, El Dorado, Cities Service, Falcon, Globe, Gulf, Johnson, National, Phillips, White Eagle, Stanolind, Sunray, Texas, Sun, Vickers and Wilcox.

Column 2—Anderson & Prichard, Carter, Cosco, Deep Rock, Magnolia, Mid-Continent, Pure, Rock Island, Shell, Sinclair, Skelly and Tide Water.

Column 3—All purchasers.

Column 4—Humble Oil & Refining Co. and Sinclair Oil Purchasing Co.

Columns 5, 6, 7 and 8—All companies. Effective July 8, by Standard Oil Co. of Louisiana, Buckner, Magnolia and Village, Arkansas, 7 cents per barrel less than prices in Column 5.

Column 9—Humble Oil & Refining Co. and Sun Oil Co. Tide Water Oil Co.'s schedule starts at 35 degrees, $1.34 with 2-cent spread up to 40 and over at $1.44. (Raccoon Bend prices are for deep sand oil.)

Column 10—The Texas Co. (Gulf Refining Co. pays same prices up to and including 34 gravity, but continues its 2-cent spread up to 40 and over at $1.41.)

Column 11—Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Sun Oil Co. Column 12—All purchasers. Column 13—All purchasers (effective July 6, 1937). Column 14—Magnolia Petroleum Co. Column 15—Humble Oil & Refining Co. (effective July 6, 1937). Column 16—Humble Oil & Refining Co. Columns 17 and 18—Shell Petroleum Corp. Column 19—Tide Water Oil Co.

New or Improved Equipment

More Safety, Convenience in Stamping Rounded Objects

M. E. Cunningham Co., 183 East Carson Street, Pittsburgh, Pa., has perfected a safety tube stamp-holder designed to hold safety steel stamps se-

curely during the marking of objects. Although the tube-holder is not made of safety steel, it is designed to promote safety in production and to eliminate haphazard stamping on tubing and curved objects where both single and multiple characters are required.

This new safety tube-holder can be made for a single stamp or any quantity of stamps where straight line stamping is desired. If the surface to be stamped is flat, it is also possible to have a holder made for two lines, one of which might be for a trademark on the top line and a series of stamps on the second line to designate dating, inspection, or any other necessary information.

The extended handle assures a firm grip on the holder and added protection where a heavy hammer is used. The means of holding the stamps in the holder is a simplified pin that extends through the pocket and is held in place by a spring fit. The stamps are slotted so the pin will hold the stamp in place when raised from the object to be marked. The fact that safety steel stamps are used with this holder assures even heads on the stamps, so that each one can be easily struck with a hammer with no spalling or mushrooming. The holder made for tube-stamping is notched at the bottom to assure a firm seat on the tube.

Bulletins, Booklets and Other Literature for the Trade

An illustrated bulletin on Ryerson flame cutting service may be obtained from any of the branches of Joseph T. Ryerson & Son, Inc.

National engineering products, including Copaltite, Rustnil, gauge pressure equalizers, Nabico joint-seals, distributed boiler blowoff systems, and Aeco all-metallic packing, are covered in a 12-page bulletin issued by National Engineering Products, Inc., 4100 Georgia Avenue, Washington, D. C.

Larkin Packer Co., St. Louis, Mo., has published an attractive 12-page booklet illustrating and describing its complete line of pumping equipment, including wire-line and steel-plunger sand-pumps; liner-barrels; bell regular, special and telescope pumps, and large working-barrels and valves.

Steam jet air ejectors designed for air removal, condensation, dehydration, deodorization, distillation, evaporation and impregnation are described in an illustrated leaflet published by Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.

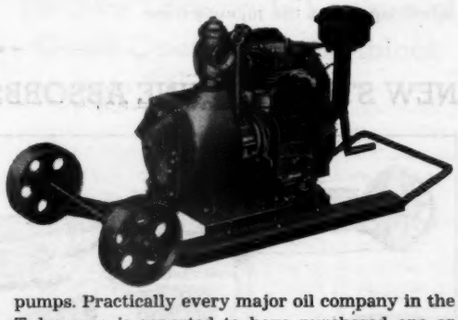
Wyatt Metal & Boiler Works, Houston, Dallas, and Tulsa, has prepared for distribution a 32-page illustrated stock list, covering a wide range of oil-country equipment.

The current number of Link-Belt News, published by Link-Belt Co., Chicago, announces a new line of radial-thrust roller bearings. The announcement is of interest to designers and builders of machinery equipment.

Of special value in the oil industry is an article on oil-storage tank fire walls of steel construction, in the July issue of the Water Tower, published by the Chicago Bridge & Iron Co., Chicago. There are interesting illustrations too of Hortonspheres, Hortonspheroids, and Wiggins steel balloons.

Wheatley Is Made Distributor for Sterling Line of Pumps

Wheatley Bros., Pump & Valve Manufacturers, Tulsa, have been appointed distributors for Oklahoma and Texas by Sterling Machinery Corp., manufacturer of various types of centrifugal



pumps. Practically every major oil company in the Tulsa area is reported to have purchased one or more of these pumps through the new distributors during the past 60 days.

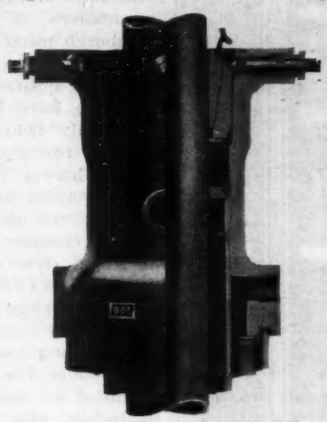
Sterling pumps, according to the manufacturers, have 100 per cent automatic priming and as a general utility pump can be depended upon to handle dirty, gritty water and solids of unusual proportions. The 2-inch model B D utility pump illustrated is one of the more popular numbers in the Sterling line.

New Arrow Supply Stores

The Arrow Supply Co., Inc., Sinclair Building, Fort Worth, Tex., announces two new stores. One is at 318 Merchants and Manufacturers (M. & M.) Building, Houston, Tex., under the supervision of Earl Gray. The other is at Denver City, Tex., in the Denver-Wasson-Bennett pools of Yoakum County, 15 miles from Seagraves, Tex., under management of Grady Forbes. The stores at Pearsall and Seminole, Tex., have been closed. Jack Scott, formerly of Atlas Supply Co., is now at Arrow's Vacuum, N. M., store under the supervision of Tom Pickett.

Handles Three Casing Strings Without Benefit of Spool

Oil Center Tool Co., Houston, Tex., which introduced its Type C-9-A casinghead several months ago, announces that it is in full produc-



tion on all sizes and in test pressures ranging up to 10,000 pounds. As its name implies, this 2-in-1 head handles three strings of casing without benefit of a spool, yet its overall height is only slightly more than that of a conventional two-string head. The intermediate casing string screws into the head body as shown in the illustration, which then seats on top of the first, or surface string. Weight of the intermediate string effects a seal between the casinghead body and the surface string, the bottom of the casinghead body being grooved and provided with a ring of special hard hydraulic packing. The third, or oil, string, is suspended from slips, and, because of the slip suspension method, may be landed at any desired point.

The split neoprene packing rings and the slips are lowered to position through the blow-out-preventer equipment, the weight of the oil string compressing the packing to effect a seal. Hold-down screws are provided as an additional means of compressing the packing. If desired, an auxiliary welding flange, which seats on a metal ring gasket on top of the casinghead body, may be used to accommodate a bead weld around the oil string to serve as a hold-down. Either the regular casinghead flange or welding flange will accommodate flanged tubing-heads.

Captain Higgins Awarded Degree

When Texas Arts and Industries College, Kingsville, Tex., first started its natural gas engineering course, Capt. A. E. Higgins, vice president of Pittsburgh Equitable Meter Co., then secretary of the Natural Gas Association, was chosen chairman of the committee of six members whose duty it was to plan the course of study. For his untiring efforts and the success with which the natural gas engineering course has had, the college conferred upon Captain Higgins an honorary degree and presented him with a gold key as a symbol of recognition and appreciation.

Device Designed for Obtaining and Examining Oil Samples

The Stupakoff bottom-hole sampler, distributed by Pittsburgh Equitable Meter Co., 400 North Lexington Avenue, Pittsburgh, Pa., is a new apparatus for obtaining and examining subsurface samples of oil. A companion product to the Stupakoff bottom-hole pressure-gauge, also sold only through representatives of the Pittsburgh meter firm, the sampler, with the auxiliary apparatus is said to have been thoroughly field-tested for over two years.

The basic instrument consists of the sampler, essentially a tubular chamber open at both ends with means provided for forcibly closing the ends of the chamber, thus trapping a sample of the fluid. The total length of the device is 61 inches, with a diameter of 1¾ inches which permits it to be lowered into tubing as small as 2 inches. The internal passages are designed to offer minimum obstruction to the flow of oil through it, so that as it is lowered into a fluid column with the valves open, it passes through the fluid without carrying any along to a lower level. The sample-chamber, 42 inches in length and 1⅜ inches in diameter, is closed when the upper and lower knife-edged valves the thrust against the fiber valve-seats, by spring pressure of approximately 50 pounds actuated by a messenger released from above. The sampler is used both for obtaining the sample and as the container during its examination.

Auxiliary apparatus designed for use in the field to eliminate loss of time in sending samples to the laboratory, includes a deadweight tester for measuring pressures, a heater jacket for maintaining samples at a constant temperature during the tests, an accurate gas meter for measuring gas volumes to within .0001 cubic foot; a mercury pump for changing the effective volume of the sample-chamber by introducing mercury under pressure, together with several devices for attaching these to the sampler.

Cochrane Ring-Balance Meter Adapted for Low Pressures

Cochrane Corp., Philadelphia, Pa., is introducing the Cochrane ring-balance flow meter for low-pressure gas measurement. This instrument is designed for operating differentials as low as 2 inches of water and is particularly applicable to measurement of gases at pressures below those for which the customary types of mercury-sealed flow meters are suitable.

The meter consists of a ring-shaped hollow body, rotably supported on knife edges at its center, so as to be capable of turning freely. The annular body is partly filled with water, oil or air antifreeze liquid, and is divided at the top by a partition wall, to each side of which a flexible tube is led for the purpose of subjecting the unit to the differential pressure from an orifice or flow nozzle through which flow is to be measured.

When flow occurs through the orifice plate, the resultant differential pressure causes the liquid in the ring balance to be transferred from one side to the other, whereupon the ring balance rotates to a new position of equilibrium. Motion is maintained proportional to flow by a suspended weight and cam.

Burke Made Chicago Manager

Edmund Burke, Jr., has been appointed Chicago manager for Michigan Steel Casting Co., Detroit, Mich. A new office has been opened at Room 1219, 624 South Michigan Avenue, Chicago. This company specializes in the development and production of special steel and alloy castings. Mr. Burke, formerly with the Cosden Petroleum Co. at Big Spring, Tex., has moved to Chicago.

Torch Cutting Operations Discussed

A new 24-page illustrated bulletin on cutting torches has just been issued by the Victor Equipment Co., 844 Folsom Street, San Francisco, Calif. In addition to illustrating the complete line of Victor hand and machine cutting torches, this bulletin contains a comprehensive discussion of the principles of flame cutting, fuel gases, torch cutting effects, a chart on torch cutting speeds, data on gas consumption and recommended gas pressures, and torch repair instructions. Directions are given for underwater cutting operations and for selection of the proper torch for various other applications. Copies may be had upon request to the manufacturer.

Acme Mask Does Not Interfere With Vision of Its Wearer

Acme Protection Equipment Co., Inc., 3603 Liberty Avenue, Pittsburgh, Pa., manufacturer of respiratory protective devices, announces official approvals of Acme full-vision gas-masks Nos. 4 and 4A by the U. S. Bureau of Mines for organic vapors. A feature of these new masks is the full-vision safety-glass lenses, which permit the wearer to see the same as when not wearing a mask. Another important feature is the dead-air check-valves on the outlet ends of the fresh-air ducts. These valves automatically open and close upon inhalation and exhalation, and prevent accumulation of exhaled breath in the fresh-air ducts.

A light-weight, all-rubber facepiece, fully molded and cured to master face-fitting proportions, provides comfort. There are no rivets, threads or adhesive-tape pads, and the head-harness buckles are incorporated in such a way as to eliminate uncomfortable pressure points on the wearer's face and forehead.

The illustration shows the Acme No. 4A, which is provided with a 27-inch flexible hose and carrier. The No. 4 mask is of the front-lace carrier type with 10-inch flexible corrugated hose.

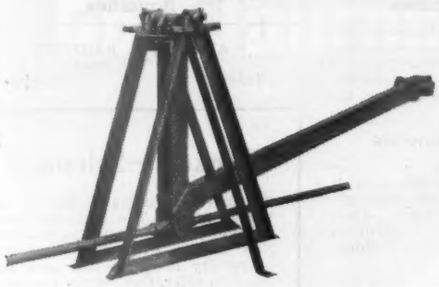
NEW STAR MACHINE ABSORBS SHOCK OF DRILLING WORK

Star Drilling Machine Co., Akron, Ohio, announces the Star No. 75 Spudrill, a new all-steel drilling machine, with antifriction bearings, free-running reels, air-cooled brakes, shockless spudder, and capacity to drill up to 3,500 feet. The machine is described as rugged, precision-built of the finest materials available, and designed for economical and efficient drilling, ease of operation, dependability in performance and long years of service.

An all-steel drilling machine with 100 per cent antifriction bearings would not be possible without efficient means of absorbing the shock caused by the drilling operation. Four years ago the company introduced the Star shockless spudder in a small water-well machine. Over 300 of these machines are in daily operation, drilling all kinds of formations and in many cases under abnormal and severe conditions. The experience gained by observing these machines, along with experiments carried out in the field, enabled the company's engineers to develop the shock-absorber built into the spudder of the Star No. 75 Spudrill.

National Supply Is Introducing New Back-Crank Pendulum

The National Type K back-crank pendulum placed on the market by National Supply Co. is designed for pumping additional wells from backside cranks where pullrod loads do not exceed 15,000 pounds. It is furnished complete with



frame, pitman, and wristpin. Large expensive foundations and high throw-offs are avoided by placing the rodlines as close to the ground as possible.

The frame is fabricated in two halves with diagonal braces which, when assembled on the foundations, constitute a very rigid structure. The pendulum arms are two steel channels with the saddle-shaft welded integrally. Arc-welded construction is used throughout. A feature of the pitman is the elimination of the ball-and-socket wristpin construction in favor of a simple and easily lubricated design. By hanging the wristpin bearing housing on a large-diameter pin, complete self-alignment is effected, allowing the use of the more desirable straight bushing and wristpin design.

Pendulum saddle bearings are adjustably mounted with set-screws on the frame, so that accurate alignment can be accomplished. These bearings are cast iron with oil reservoirs and Perfect oil seals. Pullrod connection, pitman, and wristpin bearings are bronze with oil reservoirs and Perfect oil seals. Connection housings are made for 2⅜-inch O.D. welded pipe extensions. Proper alignment of the pipe extensions throughout the stroke is permitted by hinging the pipe socket on the pitman side to the housing.

A complete description of the National Type K back-crank pendulum, along with a larger size, Type H, is given in bulletin No. 177. Its use with National reduction gears, equipped with National concentric cranks and counterweights, is also covered.

Here and There With Men Who Manufacture Equipment

Robert L. Marston, formerly connected with Sun Oil Co., has been appointed regional manager in Houston, Tex., for Sperry-Sun Well Surveying Co., Philadelphia, Pa. He succeeds Morton T. Riggs, who resigned.

M. J. Flanagan, vice president of Gaso Pump & Burner Manufacturing Co., Tulsa, and Mrs. Flanagan are spending a month's vacation in California.

Walter Williamson, manager of apparatus and supply sales, has been elected vice president of the Westinghouse Electric Supply Co. Mr. Williamson is responsible for the development of the company's apparatus and supply business, both as to operations, through the company's 72 branch houses in the field, and relationships with suppliers.

Allan J. Edwards, of Tulsa, sales manager for Black, Sivalls & Bryson, Inc., Oklahoma City, Okla., has returned from a combination business and vacation trip through the eastern part of the United States and Canada. Mrs. Edwards accompanied him.

William A. Ross has been appointed sales manager of the Pyle-National Co., Chicago, manufacturer of railway and industrial electrical equipment. A. L. Berlin has been appointed assistant. Both Mr. Ross and Mr. Berlin will be at the general offices and factory of the company, 1334-58 North Kostner Avenue, Chicago.

William J. Daly, formerly Detroit district sales manager for Worthington Pump & Machinery Corp., has been transferred to the company's Philadelphia office to succeed the late C. H. Shaw. He will be assisted by W. J. Van Vleck, recently appointed assistant manager in the Philadelphia district.

Sam Tennant Manager of Sales

Sam L. Tennant, manager of sales of the Gilmore Wire Rope Division of the Jones & Laughlin Steel Corp., who has opened district offices for his company in the Shell Building, Houston, Tex., is well known in oil and supply circles throughout the oil country and has spent the past 16 years in sales and service of wire rope alone. Mr. Tennant formerly was connected with Williamsport Wire Rope Co. The plant and the executive offices of the Gilmore Wire Rope Division are in Muncy, Pa. Robert Gilmore, general manager, with 42 years' experience in this field, is in charge of manufacture and sale of the company's products.

Positive Locking Is Feature of Quick-Opening Snatchblock

McKissick Products Corp., Tulsa, has perfected and placed on the market a quick-opening snatchblock with positive locking feature. Flexibility of operation results from the fact that the swivel-hook may swing to conform to the angle of pull. The hook is not rigid.

Opening is accomplished by lifting the plate out of locking position. Closing is automatic by reason of a tension spring forcing the plate into locking position. Some of the other features incorporated in these new blocks are: (1) Load on locking-plate is carried by large center pin. (2) Frame plates cannot spread under heavy load. (3) Swivel-hook and crossbolt allow hook to swing to conform to angle of pull. (4) Steel sheaves, grooved for 1½-inch manila rope or any size wire line specified. Sheaves of same diameter are interchangeable regardless of line groove. (5) Two-inch diameter sheave-pin, extra heavy. (6) High-speed bronze bushings or Hi-Load type roller bearings. (7) Alemite lubrication. (8) Equipped with swivel-hook or with swivel-becket, interchangeable.

Buys Murray Safety Sling Co.

Broderick & Bascom Rope Co., St. Louis, Mo., has purchased the business and patents of Murray Safety Sling Co. of Pittsburgh, Pa. D. Murray, the original manufacturer of plaited wire rope safety slings, has sold his patents to the Broderick & Bascom Rope Co., and will himself join this company, being in charge of the Murray Safety Sling Division factory at 33 Water Street, Pittsburgh, Pa.

Leak Trouble at Vital Point Is Minimized by Dresser Tee

To eliminate failures at that vital point in gas-distribution systems—where the service joins the main—is the purpose of a new line of Super Service street tees, Style 90, announced by S. R. Dresser Manufacturing Co., Bradford, Pa. Two advantages are pointed out. One is the flexible branch outlet, using the Dresser wedge-shaped gasket and "pack." This flexible connection

absorbs stresses and pipe leverage due to movement of either main or service, thus preventing troubles resulting from rigid joints. Such movements may result from frost, expansion, vibration, traffic shock, shifting or settling of the ground, etc.

Elimination of threads is the other advantage offered. "Many gas-operating men," states the manufacturer, "tell us that most of their leaks with services can be traced to failures at threads. Chances for leakage at such points are eliminated with the Dresser type of connection, which takes plain-end pipe having full strength and thickness at the ends."

"In addition," says the manufacturer, "Super Service street tees do away with exact lining up of pipe, work starting threads, turning of long pipe lengths, exact pipe lengths, and large excavations. They offer other advantages such as: (1) Easy assembly on pipe already deflected; (2) reserve sealing power; (3) 'stab' fit; (4) exclusive cup-shaped gasket-retainer ring completely confines gasket, preventing nut from fouling on gaskets; (5) ruggedly constructed throughout; (6) anyone can install, using only a wrench, in wet ditches or bad weather, with complete safety; (7) long pipe entrance is afforded."

At present the tees are available in 1-, 1¼-, 1½-, and 2-inch ID straight sizes and in 10 reducing sizes.

Vogt Valve Designed for Close and Dependable Regulation

Henry Vogt Machine Co., Louisville, Ky., announces a line of drop-forged steel, union bonnet type, meter valves in one-quarter, three-eighths and one-half inch sizes. This valve has hexagon body ends, a ground joint between body and bonnet, a stem that can be easily reground or replaced, and the valve may be repacked under pressure. It is recommended for 900 pounds working pressure at 750° F. or 1,500 pounds nonshock cold working pressure and may be had of all-carbon or all-stainless steel to suit. Vogt meter valves are said by the manufacturer to be especially suited for applications where close, dependable and safe regulation is important.

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PATENTS obtained — inventions developed — working drawings — engineering advice. Mid-Continent Engineering Company, E. H. Waldrop, Shawnee, Okla.

Leases and Drilling Blocks

SECURITY ABSTRACT COMPANY
El Dorado, Union County, Arkansas, Magnolia, Columbia County, Arkansas. Fee, Lease and Mineral ownership on short notice. Ownership maps.

LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up. Owners—Address Attorney, Box 1122, Little Rock, Ark.

DEALERS and SALESMEN
Don't wait! Write today for our lease offer. Others like yourself are making money selling these leases—you can do the same. Complete selling story, and elaborate maps furnished free. Write quick for details.
RUBUSH and COMPANY
1307 Pacific Ave. Dallas, Texas

WHY PAY big prices for Oil Leases when potential land in fee, all royalty, can be bought for $5. Investigate. J. N. SWANSON, Sayre, Oklahoma.

50,000 A. in and near Ill. production area. Consider drilling deal. Illinois Minerals Co., Cairo, Illinois.

BLOCK of leases in Ark. surrounded by four drilling wells and major Co.'s paying rentals and taking titles. Desire drilling for acreage. Address Box J-490, The Oil and Gas Journal, Tulsa, Okla.

FOR LEASE for oil and gas purposes, 240 A. land in Anderson County, Kansas. Oil was drilled in at a shallow depth with good showing of gas. W. M. DARY, 224 E. 16th St., Long Beach, California.

PRODUCTION WANTED
Partially developed lease entirely proven producing depth 2,000 feet or less, must be in Texas, all data will be returned after inspection, personal purchase no brokering. Submit price. P. O. Box 2202, Fort Worth, Texas.

HIGH-CLASS 500 acre lease, checker boarded, dollar per acre and well 950 ft. Production 4 sides. Also 40 acres offsetting two producing wells 730 ft. $400. Particulars, Box 10, Kincaid, Kansas.

HAVE fifty thousand acres under lease in Scotts Bluff and Sioux counties, Nebraska, for development or commercial lease. Write Box 262, Scotts Bluff, Neb.

DRILLING deals wanted 50,000 acres Southern Illinois in and around production area. Elmer Gant, Anna, Illinois.

Leases and Drilling Blocks

PANOLA COUNTY, EAST TEXAS, BLOCK 5,000 acres. Situated on flank of Sabine Uplift. Located on structure mapped by recognized geologist. Would consider sale or drilling arrangement with responsible parties. The merits of this acreage are worthy of your closest investigation. Address Box J-473, The Oil and Gas Journal, Tulsa, Oklahoma.

ILLINOIS OIL AND GAS LEASES
Semi-proven acreage, and wildcat drilling blocks. SAM J. BURKITT, Moweaqua, Ill.

LEASES—ROYALTIES near Ordovician Wildcat semi-proven offers reasonable chance play for quick money. E. CROFT, Proctor, Texas.

ATTENTION DEALERS: Have good leases around drilling wells in oil territory for sale at right prices. Sale of leases exempt by S. E. C. Will furnish maps, geological report, etc., to active dealers. Write or wire W. P. Spielberger & Co., Inc., P. O. Box 1982, Oklahoma City, Okla.

OIL Lease, 240 acres, Sec. 64, La Chuse ranch, McMullen Co., Tex. Reasonable offer accepted. Owner, J. Manz, Andale, Kansas.

N. MEX. weekly Oil Scout Report up to minute locations and developments. Send $1.00 for 2 months' service. Roy G. Barton, Hobbs, New Mexico.

100%, 200%, 300% per annum possible on your investment. 80 acres offsets a million shallow gasser. On pipe line. I furnish lease, drill well, $850.00. H. B. Buddenborg, Osawatomie, Kansas.

WILL sell ⅝ interest in 800 acre block on structure in Clinton County, Illinois, or give acreage for Benoist test. Write Box 294, Carlyle, Illinois.

WANTED: 6,000-foot test well drilled this fall. Give full information in regard to equipment and responsibility in first letter. Box 196, Sidney, Nebraska.

WILL lease to responsible party 160 acres in 33-18-9, Creek County, or 200 acres 5 and 6-1N-2E, Murray County, Oklahoma. W. L. Suiter, 1016, Baltimore, Kansas City, Missouri.

LEASES-ROYALTIES, South Louisiana 20 ac. up; $1.50 acre and up. Land Owner, John Derryberry, DeRidder, Louisiana.

NOTICE
1,500 acres, 5 yr. leases—Northern Clay County, Illinois—5-N, 5-E. Will turn this for small bonus and a drilling contract. Leo H. Graves, Farina, Illinois.

OWNER will sell part royalty or lease near Heyser field southern Victoria county. Box 82, Bloomington, Texas.

Plans and Estimates

Pipe Line, Roads, and Improvements. SURVEYS: Property—Contour—Construction. Legal Land Descriptions—Rights of Way. Valuation Maps. L. H. GOWDY, Civil Engr., 1226 So. Orange Dr., Los Angeles. WE. 5895.

For Sale—Miscellaneous

FOR SALE—A little ship, built to go anywhere—length 37 ft.—width 11½ ft. —draft 4 ft. 9 in.—loaded for cruising—Ketch rig—50 H.P. gas engine—Delco light plant—very heavy construction throughout. Inquire 308 Nixon Building, Corpus Christi, Texas.

PETRIFIED wood and many other rock formations for curio collections, rock gardens, fish ponds, etc. Ten cents and up plus postage. Gathered and sold by boys. Can probably furnish what you need.
REEVES BROS.
P. O. Box 475,
McLean, Texas.

Ranches and Farm Lands

25,000 ACRE WEST TEXAS RANCH: 20,000 open plateau, solid grama grass, elevation 5000 ft., big black-tail deer. Two pastures, two houses, ten tanks, well, two rock reservoirs, piped water. Detailed geological report. Immense oil structure on state and federal maps. Unleased, state reserved ⅛ minerals. Grass leased $4600; state debt $1.00 3%. Price clear equity $4.00. M. E. Bogle, 105 Routt St., San Antonio, Texas.

920 ACRES grazing land, some improvements, on West Plain's Oil Structure in Western Logan County, Colorado. Price $3.00 per acre with 1% of the oil. Easy terms. Write Box 196, Sidney, Nebraska.

CULBERSON COUNTY, WEST TEXAS, 25,000 acre solid ranch. On largest known structure flanking Permian basin. Tremendous drainage and closure. Mapped by recognized geologists. Unleased, undrilled. Majors hold large blocks in area. Well improved and watered, open grama grass plateau, 6,000 elevation, blacktail deer. Will graze 1,200 cows, or 6,000 sheep. Grass lease nets 3½%. Fee price $5. M. E. Bogle, 105 Routt St., San Antonio, Tex.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
NEW—Mid-Continent Oil & Gas Association 1938 Model Forms of Unit Operating Agreement #2, Exhibit #2-A and Accounting Procedure #2-B in stock for immediate delivery, sample gratis. Olds Press, 215 East Third St., Tulsa, Okla.

Royalties

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

Brokers—Salesmen
Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

Producing and Non-Producing
OIL ROYALTIES
Registered Dealers Only
GRIMES ROYALTY CO.
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ROYALTIES—ADEQUATE RESERVES
G. D. TERRIEN
412 Central Bank Bldg., Tulsa, Okla.

PRODUCING OIL ROYALTIES
15 years of experience.
L. H. WITWER
703 Kennedy Bldg., Tulsa, Okla.

NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Hobbs, New Mexico.

WRITE US TODAY
For our offering of producing and nonproducing oil royalties.
RUBUSH and COMPANY
1307 Pacific Ave. Dallas, Texas.

ROYALTIES PURCHASING TRUST, LTD., Moorgate Hall, Moorgate London, E. C. 2., England, are buyers of producing oil royalties.

Financing

CAPITAL SEEKERS—Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan.

INQUIRIES SOLICITED FROM CORPORATIONS INTERESTED IN RAISING CAPITAL THROUGH THE MARKETING OF CORPORATE SECURITIES.
BROWN HARTWELL COMPANY
110 EAST 42 ST., NEW YORK

For Sale—Maps

1938 REVISED EDITION
MAP of State of Texas, Eastern N. M., parts of Southern Okla., SW Ark. and La., shows Oil and Gas Fields in color, Counties, County Seats, elevations, coordinated alphabetical index of counties and fields.
Price $1.00 postpaid

Write for descriptive folder of Oilfield and County Ownership Maps.
ZINGERY OIL MAP COMPANY
Fidr Building Fort Worth

Mailing Lists

ROYALTY Lists. Unit Owners Lists. Stockholders Lists. By states. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa, Oklahoma.

Equipment Wanted

WANTED
USED ROTARY FISHING TOOLS
Rope Spears, Dog Overshots, etc. Write what you have and best price. Address Box J-481, The Oil and Gas Journal, Tulsa, Oklahoma.

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	*1 time*	*$5.00*
1 Inch	*13 times*	*4.50 per inch*
1 Inch	*26 times*	*4.00 per inch*
1 Inch	*52 times*	*3.50 per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

CLASSIFIED

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*
6 Lines	*2.10*	*3.60*	*5.10*	*6.60*

	1 time	2 times	3 times	4 times
7 Lines	*$2.45*	*$4.20*	*$5.95*	*$7.70*
8 Lines	*2.80*	*4.80*	*6.80*	*8.80*
9 Lines	*3.15*	*5.40*	*7.65*	*9.90*
10 Lines	*3.50*	*6.00*	*8.50*	*11.00*

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma